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REMEMBERING DISPUTED SEXUAL ENCOUNTERS: A NEW FRONTIER FOR WITNESS MEMORY RESEARCH

### Permalink

<https://escholarship.org/uc/item/0xs195f5>

### Journal

JOURNAL OF CRIMINAL LAW & CRIMINOLOGY, 105(4)

### ISSN

0091-4169

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### Publication Date

2015

Peer reviewed

# REMEMBERING DISPUTED SEXUAL ENCOUNTERS: A NEW FRONTIER FOR WITNESS MEMORY RESEARCH

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*This paper reviews sources of distortion in memory for sexual encounters, particularly those between intoxicated participants. We review factors leading to initial misinterpretations of sexual consent including the indirect nature of sexual consent communications, misleading cultural sexual scripts, misinterpretation of passivity, and others. In this context, we consider the way in which alcohol can both contribute to initial misunderstanding and promote specific distortions in memory over time. Finally, we discuss additional influences on memory, including motivations related to self-esteem, self-concept maintenance, or litigation, and the effects of social influence from sources such as friends, forensic interviewers or therapists.*

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## INTRODUCTION

“What do you do when two young people—both drunk and amorous—have sex that neither completely remembers, both belatedly regret and each sees through a different lens the morning after?”

Sandy Banks, *Los Angeles Times*, July 10, 2014<sup>1</sup>

What do you do? This question, raised by *Los Angeles Times* reporter Sandy Banks, lies at the heart of a host of cases of alleged sexual assault. How does one adjudicate such cases when available evidence lies exclusively, or almost exclusively, in the reports of witnesses with compromised perception and memory? And how do you do this when the cases are tinged with motivations and biases that can significantly distort the fuzzy memories that both parties have? Is there reason to believe that people

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<sup>1</sup> Sandy Banks, *A Campus Judgment Call: Students and Colleges, a Lesson in Accountability: Being Drunk Could Lead to But Doesn't Excuse Sexual Misbehavior—for Either Gender*, L.A. TIMES, July 10, 2014, at A2.

in such circumstances might be particularly susceptible to false memories of the encounter? We suggest that there are good reasons to believe they may be. We review evidence to support this claim and identify pathways to honest false testimony in cases of disputed sexual assault.

As context for understanding how honest discrepancies in memory for sexual interactions might arise, consider the case of a woman we will call Helen, and her alleged rapist, who we will call Jerry:

Helen and Jerry met during their first year of college and dated for about six months before breaking up. The break-up was reported by both as not hostile and as motivated largely by Jerry's impending departure. Jerry left at the end of that year for financial reasons and attended a college in his hometown for the next year. During the fall of their third year in college, Helen unexpectedly encountered Jerry at a fraternity party. He had returned to complete his final two years.

Helen was surprised and pleased to see Jerry. She had a lot of genuine affection for him, but she had just started dating a new boyfriend—Hans—and was very interested in pursuing that relationship. Hans was out of town for the weekend and couldn't attend the party. Helen began the evening by having several drinks with her sorority sisters before going to the fraternity party around 8:30 p.m.

Helen encountered Jerry shortly after she arrived. She hugged him enthusiastically and told him how glad she was to see him. Throughout the evening they stuck close together and were reported by others as having seemed physically affectionate and very interested in one another. They danced together and sat together (sometimes with limbs entwined). Both agreed that they had talked intimately, reminiscing a lot about old times (as well as new things in their lives). Both agreed that Helen told Jerry about Hans and her hopes for that relationship. Jerry told Helen about two women he had been dating and about which one he thought he was likely to pursue. Both consumed more alcohol and, eventually, left the party together at around 11 p.m.

As they left the party, Jerry asked Helen to come to his new place. He reported he just wanted to show it to her because he was proud of the place and what he had done with it. She agreed, and they went to his place, where they continued to drink and talk. Jerry pointed out some of the things he had when they were together, and they talked more about old memories, including their mutual enjoyment of their past sexual activities. This was amid other talk of their new partners as well.

As to how the evening proceeded, Helen and Jerry agree on the following: It became late, and Helen felt very tired. Jerry encouraged her to stay and offered to sleep on the couch. Helen refused and insisted that she

would sleep on the couch. Jerry got in bed and told Helen that she really didn't have to sleep on the couch because there was room enough for both in bed. Helen reiterated that she would sleep on the couch, but after going to the bathroom in Jerry's room, she flopped into bed with him and snuggled close to Jerry.

Their accounts began to diverge considerably at this point. Helen later claimed that she believed it was clear she had no intention to have sex with Jerry. She had told him about Hans and her intentions to pursue that relationship. She had told him she thought it was possible that Hans was "the one." She also said she made it clear that she only stayed because they were both so tired and drunk that neither felt like going anywhere. She believed Jerry meant that she should come to bed because it would be more comfortable, not because they would have sex; he had talked about his new girlfriends, too. Helen thought of Jerry at this point like a best friend, kind of like a girlfriend you could be yourself with, rather than a boyfriend or sex partner. She said she had told him as she got into bed to remember that she was taken, and to keep his hands off her.

Jerry, on the other hand, would later say that he felt that Helen clearly wanted to have sex with him. Jerry stipulated that Helen had told him about Hans. But he also noted that all evening she had been very affectionate and intimate with him. They had talked about sexual topics, including sex between them (which they agreed had been great). She had come to his place and continued to be affectionate and drink with him even when they were alone. And, even though they talked about who should sleep on the couch, he didn't think either of them were serious—just teasing and being coy. When Helen got into bed with him, this seemed to remove any doubt.

Helen agreed that she snuggled up against Jerry but said that, to her, it was simply snuggling with him like a big brother. At first, Jerry stroked her affectionately on her arms and shoulders as she drifted off. She felt very drunk and began to drift out of consciousness, awaking to find that Jerry had removed her clothes and was performing oral sex on her. She realized she felt somewhat aroused by what he was doing but was nevertheless shocked and didn't want to have intercourse. But Jerry either misinterpreted or disregarded her startled reaction and outcry and moved up to kiss and enter her. He was very aroused and grunted or moaned loudly as he moved, shortly thereafter having an orgasm. Helen felt a number of emotions during intercourse: arousal, distress, guilt, fear about her relationship with Hans, and others.

Helen reported that she was shocked and distressed, and that she tried to resist. But Jerry was a foot taller than Helen and weighed over two hundred pounds, and she felt that her resistance was completely futile, as Jerry's

weight moved and thrust on top of her slight, one-hundred-pound body. She said she cried out for him to stop, but he didn't. Helen felt she had clearly said no, before and after he entered her. Helen also reported that she was very drunk and that when she first opened her eyes, it took her a moment to realize what he was doing and to mobilize herself to resist. She claimed that she managed to put her hands on his chest to try to push him away, but by then it was too late. Jerry finished, and soon kissed her, moved off her, pulled her close by his side, and fell asleep.

Jerry, in contrast, reported that Helen seemed completely on board with what they were doing. He agreed with her account that he began by stroking her arms and shoulders. He recounted, however, that she sighed and seemed to enjoy it. After all, she had gotten in bed with and snuggled up to him, and this happened after the many behaviors throughout the evening that seemed very consistent with her being interested in sex. Jerry admitted that he was intoxicated, too, but became aroused rather than tired with Helen, who was very attractive, in bed with him. He acknowledged that she had talked about Hans, but given her other behaviors, he assumed she was okay with extra-relationship sex, or that maybe she would want him instead. He said he had no idea and that there was no indication that Helen wanted to restrict their rekindled relationship to friendship. To him, it felt like they had never broken up.

As they lay in bed, Jerry reported that Helen was making sounds of pleasure with everything he did. As he moved from stroking her arms to touching her more intimately, she didn't protest. She didn't open her eyes but seemed to respond with arousal to his touch by making more sounds of pleasure. As he moved from performing oral sex to intercourse, she opened her eyes, sat up a little, gasped, and put her hands against his chest. But he interpreted these things as arousal and participation. He didn't see indications of resistance or distress. Once intercourse began, he said he heard her say something but didn't really know what it was, because he was fully aroused and making noise himself. He thought she was just expressing enjoyment. For her part, Helen didn't remember the sounds Jerry said she made until Jerry began intercourse. She reported that she was basically unconscious and intoxicated, and if those sounds happened at all, they didn't reflect her feelings about the sex.

Helen didn't accuse Jerry that night. She cried for a while as he slept, then fell back asleep herself. Jerry took her home the next morning, and to him, nothing seemed amiss. But within the week, she had reported him to campus authorities and police, claiming that she did not consent to the sex and that she was too intoxicated to consent. With these reports, Helen began a complicated saga for herself, Jerry, and those on campus and in the legal

system faced with the task of disentangling the truth from lies, and honest mistakes of memory and interpretation.

As is common for cases of disputed sexual consent such as that of Helen and Jerry, their legal dispute turned on four primary issues. First, did Helen feel that she had voluntarily participated in the sexual encounter? Second, regardless of Helen's subjective sense of voluntariness, what would a reasonable man conclude regarding her consent, given her behavior at the time? Third, how intoxicated was Helen? Did she pass the threshold of her ability to reasonably consent to the encounter? And finally, regardless of Helen's actual level of intoxication, would it be reasonably apparent to Jerry that she was too intoxicated to consent?

Investigators and others who must judge these issues have to rely on "memory" evidence. That evidence consists of Helen and Jerry's memory reports and those of the other witnesses: reports relevant to the voluntariness of the sexual encounter, reports relating to Helen's level of intoxication (the amount of alcohol or other drugs consumed), and memory reports about behaviors that might reflect Helen's level of intoxication (such as slurring speech, stumbling, or struggling to perform other physical activity).

Cases such as Helen and Jerry's are commonplace on and off campuses around the country and have recently fueled the intense press coverage of campus sexual assault.<sup>2</sup> This coverage has raised awareness of the many issues facing those who must judge the claims, and has provoked discussion of the appropriate way for campuses to investigate and adjudicate them. Whether campus authorities or police and criminal courts pursue these claims, the evidence all must rely on will come largely, sometimes exclusively, in the form of memory-based witness accounts. Through these witnesses, fact-finders must judge complicated issues of the nature of sexual consent, how it is communicated, and how it is understood.

Though the circumstances of sexual interactions—and particularly those involving intoxicated participants—provide fertile ground for memory failure and distortion, little memory research has directly addressed memory for sexual interactions. Here, we hope to provide a call to arms for memory researchers to dive into this complicated, challenging, yet vitally important arena.

What can memory scientists offer to facilitate understanding of the

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<sup>2</sup> See, e.g., Abbie Nehring, *Campus Sexual Assault: What Are Colleges Doing Wrong?*, NATION OF CHANGE (Aug. 4, 2014), <http://www.nationofchange.org/campus-sexual-assault-what-are-colleges-doing-wrong-1407164768>; Teresa Watanabe, *55 U.S. Schools Facing Title IX Inquiry*, L.A. TIMES, May 2, 2014, at AA1; Cathy Young, *Columbia Student: I Didn't Rape Her*, THE DAILY BEAST, (Feb. 3, 2015, 5:55 AM), <http://www.thedailybeast.com/articles/2015/02/03/columbia-student-i-didn-t-rape-her.html>.

many challenges facing witnesses asked to report information regarding the four major issues entailed in cases such as that of Helen and Jerry? We structure our analysis much as many witness memory researchers might testify in court. That is, we consider three broad phases at which memory might fail: encoding, storage, and retrieval.

*Encoding* occurs when information is originally perceived and transferred into long-term memory.<sup>3</sup> *Storage* is the retention of a memory during the interval between original encoding of the event and the eventual memory recollection.<sup>4</sup> *Retrieval*, the final phase, occurs when the stored information is recalled and reported.<sup>5</sup>

Sexual consent interactions pose many of the same challenges for memory as other events. And yet, they are also in some respects unique. Similarly, though intoxication can compromise memory for any event, it can compromise memory for relevant information in sexual assault cases in somewhat unique ways. About half of reported and unreported sexual assaults occur when the accused, accuser, or both had consumed alcohol.<sup>6</sup> Moreover, additional witnesses may themselves be intoxicated.

Here, we address features of sexual consent interactions that we suggest pose relatively unique memory challenges for participants and witnesses—particularly for those intoxicated during the relevant events.

#### I. CHALLENGES AT ENCODING: FAILURES OF PERCEPTION AND INTERPRETATION

To reliably report on any event, the perceiver must first be able to perceive the event accurately and encode it successfully into long-term memory. Successful and accurate encoding requires both the opportunity to observe as well as correct interpretation of what one observes. These perceptions must also be successfully transferred to and consolidated in long-

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<sup>3</sup> *Classification of Memory*, ENCYCLOPEDIA OF THE HUMAN BRAIN (V.S. Ramachandran, ed., 2002).

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> For reviews, see, for example, Antonia Abbey, *Alcohol's Role in Sexual Violence Perpetration: Theoretical Explanations, Existing Evidence and Future Directions*, 30 *DRUG & ALCOHOL REV.* 481, 481 (2011); Antonia Abbey et al., *Sexual Assault and Alcohol Consumption: What Do We Know About Their Relationship and What Types of Research Are Still Needed?*, 9 *AGGRESSION & VIOLENT BEHAV.* 271, 275–77 (2004); Michael C. Seto & Edward E. Barbaree, *The Role of Alcohol in Sexual Aggression*, 15 *CLINICAL PSYCHOL. REV.* 545, 549–61 (1995); Maria Testa, *The Impact of Men's Alcohol Consumption on Perpetration of Sexual Aggression*, 22 *CLINICAL PSYCHOL. REV.* 1239, 1244–56 (2002); Rose Marie Ward, et al., *Alcohol and Sexual Consent Scale: Development and Validation*, 36 *AM. J. OF HEALTH BEHAV.* 746, 747 (2012).



term memory. Each of these requirements poses challenges for the parties and witnesses in sexual assault cases, particularly if intoxicated.

As we explore in the following Sections, there are several relatively unique challenges of encoding for such cases. The first concerns the range of relevant information witnesses will be asked to remember. The second concerns the limitations of human attention and observation. The last concerns the risks of misinterpretation of sexual communications, indicators of sexual intentions and indicators of intoxication. We discuss each of these with attention to the effects of intoxication.

#### A. THE DEPTH AND COMPLEXITY OF THE MEMORY TASK FACING PARTICIPANTS

Once a claim of sexual assault has been made, the two parties and other witnesses are typically faced with extensive demands for detail by investigators. What intoxicating substances did participants ingest, how much, and when did they do so? How did they behave that might reflect the degree of intoxication? What, *exactly*, did each participant say and do to try to initiate sexual activity, to solicit consent, or to grant or deny consent? When did these communications occur, and were they overt statements, facial expressions, body postures and reactions, or what? What else occurred that might reflect the accuser's willingness to engage in sex, either during the occasion in question or in the past? Accused and accuser may also be asked to recall emotions, reactions to and interpretations of the other's behaviors and statements, his or her own intentions, and other subjective thoughts (as they occurred at the time). Other witnesses can be asked similar questions.

##### *1. The Time Course and Complexity Through Which Consent Unfolds*

In addition to what occurred on the day or night of the event in question, other information concerning the long-term history of interactions between the two parties can be relevant to whether lack of consent was clearly communicated, or could have been reasonably interpreted as such by the accused. Sexual consent is sometimes conveyed over very long periods of time as acquaintance, friendship, attraction and flirtation gradually develop and escalate to sexual interactions, or as preliminary sexual activities such as kissing escalate to intercourse. Each party, and sometimes other witnesses, may take into account behaviors and communications that took place across many different interactions in many different contexts when assessing the likelihood that one or both of the parties are interested in having intercourse at a specific time. Both parties and witnesses are likely to be asked a great deal of contextual information regarding the time period preceding the alleged assault (including much historical data about the relationship), as

well as many details of specific statements and behaviors of each party during the period of their acquaintance, and leading up to and during the alleged assault.

In some cases, consent may have been granted in advance, such as when the accused and accuser may have agreed to have sex before becoming intoxicated. However, consent is ongoing, and does not end when sexual activities, even intercourse, begin. So in such instances the question may become what had happened that may (or may not) have communicated that consent had been withdrawn.

## 2. *The Complexities of Judging Intoxication*

The tasks of interpreting and remembering one's own and others' levels of intoxication are also critical to many claims of sexual assault. While objective assessment of an accuser's level of intoxication may be possible in some cases, in many others the alleged assault is reported too long after the event for such objective assessments as blood alcohol levels. Instead, judgment of the accuser's intoxication must rest on witness reports. Yet, like memory for consent interactions, memory for ingestion and intoxication can be complex, difficult, and subject to error.

The task, again, is complex. Consider the following jury instructions regarding adjudication of an alleged case of rape by intoxication. First, the jury is given the basic task to judge intoxication: "If [alleged victim] was incapable of giving consent, and if the accused knew or had reasonable cause to know that [alleged victim] was incapable of giving consent because she was [asleep, unconscious, intoxicated], the act of sexual intercourse was done by force and without consent."<sup>7</sup>

Note that the instruction includes two issues: (1) was the victim incapable of giving consent (due to sleep, unconsciousness and/or intoxication), and (2) did the accused *have reasonable cause to know* that the victim was incapacitated? Each of these requires that the person must encode a wide range of cues (and interpret them correctly) to answer appropriately.

Given the challenges of observation and memory of the amount the accuser ingested, the accused can be faced with the necessity of relying partially or fully on behavioral cues of the victim's intoxication. In many cases, such as where the accused and accuser had been present at social events prior to the alleged assault, other witnesses may be faced with the same issue.

Consider the following jury instructions regarding this issue:

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<sup>7</sup> UNITED STATES DEP'T OF THE ARMY, MILITARY JUDGES' BENCHBOOK 472 (2010), available at [http://www.hqmc.marines.mil/portals/135/military\\_judges\\_benchbook.pdf](http://www.hqmc.marines.mil/portals/135/military_judges_benchbook.pdf).

A person is capable of consenting to an act of sexual intercourse unless she is incapable of understanding the act, its motive, and its possible consequences. In deciding whether [alleged victim] had consented to the sexual intercourse you should consider all the evidence in the case, including but not limited to: the degree of the alleged victim's intoxication, if any, and or consciousness or unconsciousness and or mental alertness; the ability or inability of the alleged victim to walk and or to communicate coherently; whether the alleged victim may have consented to the act of sexual intercourse prior to lapsing into unconsciousness and or falling asleep; and or any other evidence tending to show the alleged victim may have been acquiescing to the intercourse rather than actually being asleep, unconscious, or otherwise unable to consent.<sup>8</sup>

Note that jurors are asked to consider indicators of intoxication, including, but not limited to, degree of consciousness, mental alertness, and ability to walk or communicate clearly. Witnesses are likely to be asked to report on these and additional indicators, such as out-of-character behavior or throwing up.

Clearly, the range of information relevant to consent and to intoxication is extensive, complex, often subtle, and can be easily misinterpreted. Thus, two memory problems can occur as the result of failures of encoding. That is, much of the necessary information may never have been attended to or encoded successfully into memory at all. But even if encoded, some information may have been misinterpreted, and therefore encoded into memory incorrectly. We consider each of these in the next two sections.

#### B. FAILURES OF ATTENTION AND PERCEPTION

The range of information relevant to consent and intoxication can be sufficiently extensive to challenge the limits of participants' encoding abilities, particularly when many relevant behaviors take place in a complicated social context where accuser, accused, and/or other witnesses are intoxicated. The first level of this challenge concerns participants' abilities to perceive relevant information—to have access to it, and to attend to it. Memory follows the focus of attention such that what is not attended to is not encoded: a phenomenon referred to as "inattentional blindness."<sup>9</sup> Attention, in turn, is limited and, by necessity, selective such that only a portion of observable information can be attended to. Most of the available information, particularly in complex social situations, is never attended to and never encoded.

This situation can pose considerable challenge for those reporting information relevant to claims of sexual assault. First, there can be too much

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<sup>8</sup> *Id.* (internal parentheses omitted).

<sup>9</sup> Alva Nöe, *Inattentional Blindness, Change Blindness, and Consciousness*, in *THE BLACKWELL COMPANION TO CONSCIOUSNESS* 504 (Max Velmans & Susan Schneider eds., 2007).

relevant information to encode. Moreover, much of the relevant information is hidden and unobservable, and much observable information becomes important only in hindsight, after the accuser concludes that the sexual encounter was sexual assault and conveys this claim to others. There may have been no reason to attend to that information at the time it occurred, and therefore, there is little or no memory of it later.

### *1. Attending to Intoxication*

If the claim is rape by intoxication, the primary issues can be the level of the accuser's intoxication or incapacitation, and the extent to which the accused would have reasonable cause to recognize that the accuser reached that level of incapacitation. Memory reports of what the accuser may have ingested (and when) are relevant to the probability and severity of her intoxication. Such information may or may not be available to the accused or other witnesses at all. The accuser's ingestion may have taken place before or after she<sup>10</sup> encountered them, as happened with Helen for witnesses who saw her only at the party. Moreover, even if all were together while the accuser was drinking or taking drugs, the accused (and other witnesses, if any) may not have noticed or been able to discern the amount ingested. This is complicated by the fact that ingestion can occur over a considerable period of time, some of which is observable and some not.

It is worth mentioning that many men and women arrive at fraternity parties after "pregaming" (drinking in advance of the party),<sup>11</sup> as did Helen. Some witnesses may have been present for the pregaming but not the party, and others may have been present only for the party. Still others may have been present for both. But in reality, none are likely to have observed precisely, or to possess accurate memories for, the sum total of what was ingested and the time course over which it was ingested.

Though such information would be, in theory, available to the accuser, memory for one's own ingestion can be poor as well. To the extent, for example, that ingestion takes place over a considerable period of time, and when more than a couple of drinks are consumed, the accuser may not have accurately encoded the amount ingested. If at a party, she may be unaware of all instances or amounts by which her drink was refilled by others, or of the specific amounts by which she replenished her own drinks. The distractions

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<sup>10</sup> For the sake of simplicity we refer only to female victim/accusers throughout, though we acknowledge that males also suffer sexual assault and may be the accuser in some cases.

<sup>11</sup> See, e.g., ALEXANDRA ROBBINS, *PLEGDED: THE SECRET LIFE OF SORORITIES* 73 (Hyperion Books ed., 2004).

of the party may further limit her attention to what is being ingested. As intoxication increases, encoding would be progressively impaired—particularly for what is not the main focus of attention. Thus, in many cases the accuser's memory reports may not be fully accurate regarding what was ingested and when.

Recall that the parties and witnesses may also be asked about behavioral reflections of intoxication: such as slurred speech, unsteady walking, and unusually sexualized or otherwise uncharacteristic behaviors. Whereas observers, particularly those relatively unfamiliar with the accuser, may be inclined to rely on comparison of her behavior to that of others, accurate judgments require historical information about the accuser for comparison to her current behavior.

## 2. *Attending to Consent*

As with intoxication, both parties and other witnesses may be asked about information relevant to the likelihood the accuser consented to sex, and that the accused reasonably believed that consent was present. Arguably, the parties themselves are much more likely to have attended to the relevant information, as it would be of significantly greater personal relevance and importance. It is important to note, however, that what *is not* said or done can be crucially important to sexual consent communications, whereas attention will more often go to what *is* said or done. This is particularly true for intoxicated participants, whose attention is drawn to salient behaviors and cues, and who are less likely to access long-term memory to recognize what is missing.<sup>12</sup>

Moreover, as with ingestion of intoxicating substances and reflections of intoxication, much of the relevant information may be inaccessible to the accused or other witnesses. Was the accuser a virgin versus experienced? Was she usually open to casual hookups? What was the history of her relationship with the accused? What might have been done in the past that indicated escalating or ongoing receptiveness to sex? Was there any discussion of having sex on this occasion? Answers to these questions could inform judgments of sexual intentions. Why did Helen, for example, leave the party with Jerry? Why did she go to his house? And why did she agree to spend the night? Was it because she wanted to have sex, or because she felt too drunk or too tired to make the thirty-minute drive home? Even without historical information about the parties and their previous interactions, cues to these answers may have been observable during the party that night. But

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<sup>12</sup> See discussion of effects of intoxication on perception and memory, *infra* notes 13–19 and accompanying text.

the many witnesses asked about their behavior with one another then and in the past may not have paid attention, instead attending to their own intentions, desires, and other information relevant for them.

All in all, then, considerable risk exists that witnesses will be asked to report on information they may not have access to at all, or that they were unlikely to have attended to at the time of the events in question. These problems are magnified by intoxication.

### *3. Intoxication, Perception, and Consolidation*

Alcohol has general detrimental effects on event memory, particularly with respect to event details. In part, this is because alcohol can reduce the clarity of perception and depth with which information is processed, reduce working memory capacity, and, as a result, reduce the likelihood and detail with which information is transferred into long-term memory and consolidated.<sup>13</sup> Consequently, memory for the event and its details can be absent or vague.<sup>14</sup>

Intoxication can reach the threshold for alcohol-induced blackout<sup>15</sup> such that no memories of the event in question will reach long-term memory at all, certainly none that are either accurate or reliable.<sup>16</sup> However, some persons can nevertheless develop rich false memories for events during the blackout<sup>17</sup> through processes described in later sections.

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<sup>13</sup> For reviews of multiple effects of acute alcohol ingestion, see Miriam Z. Mintzer, *The Acute Effects of Alcohol on Memory: A Review of Laboratory Studies in Healthy Adults*, 6 INT'L J. ON DISABILITY & HUM. DEV. 397, 400–01 (2007); Márk Molnár et al., *The Acute Effect of Alcohol on Various Memory Processes*, 24 J. PSYCHOPHYSIOLOGY 249, 250–51 (2010).

<sup>14</sup> E.g., Jennifer E. Dysart, et al., *The Intoxicated Witness: Effects of Alcohol on Identification Accuracy from Showups*, 87 J. APPLIED PSYCHOL. 170, 174 (2002); Angelica Hagsand et al., *Bottled Memories: On How Alcohol Affects Eyewitness Recall*, 54 SCANDINAVIAN J. PSYCHOL. 188, 191–93 (2013); Kim van Oorsouw & Harald Merckelbach, *The Effects of Alcohol on Crime-Related Memories: A Field Study*, 26 APPLIED COGNITIVE PSYCHOL. 82, 84–86 (2012).

<sup>15</sup> See Donald W. Goodwin, *Alcohol Amnesia*, 90 ADDICTION 315, 315–16 (1995); Donald F. Sweeney, *Alcohol Versus Mnemosyne—Blackouts*, 6 J. SUBSTANCE ABUSE TREATMENT 159, 159–62 (1989).

<sup>16</sup> It is important to note that multiple substances are often consumed contemporaneously, which may magnify intoxication, result in complex interactions between substances, and make it difficult to predict the cognitive impact of the combined doses. Though ingestion of other drugs is important and can result in similar impairments as alcohol, we restrict our review to alcohol.

<sup>17</sup> GISLI H. GUDJONSSON, *THE PSYCHOLOGY OF INTERROGATIONS AND CONFESSIONS: A HANDBOOK* 212–13, 411–12 (2003); Gisli Hannes Gudjonsson et al., *The Role of Memory Distrust in Cases of Internalised False Confession*, 28 APPLIED COGNITIVE PSYCHOL. 336, 337 (2014); see also Saul M. Kassin, *Internalized False Confessions*, in 1 THE HANDBOOK OF

Intoxication impairs encoding in part through its impact on what is attended to, as well as the extent or depth of attention devoted to those aspects of the event that are attended to. The term "alcohol myopia," for example, refers to the tendency during acute alcohol use to narrow the focus of attention to salient immediate stimuli, at the expense of other contextual information.<sup>18</sup> As noted earlier, memory follows the focus of attention, such that what is not attended to is not encoded into memory. Moreover, that which is attended to in less depth is less likely to be encoded at all, and less likely to be encoded completely or accurately. Thus, much of the very detailed information witnesses are asked to recount is never encoded and is not accessible for the witness to report reliably. As we have thus far reviewed, this is a problem for most witnesses, in that much more information can be asked for than they would reasonably have encoded successfully during the event. Alcohol myopia, however, renders such problems greater for the intoxicated witness. "Inattentive blindness" is greater among the intoxicated, for example.<sup>19</sup>

### C. FAILURES OF INTERPRETATION AT ENCODING

Even if information is adequately attended to and perceived, it may be encoded into long-term memory incorrectly. Unfortunately, by nature, behaviors and communications relevant to sexual consent are often subtle, ambiguous, and subject to multiple meanings. They are easy to miss and open to misinterpretation. Similarly, intoxication-relevant behaviors are often difficult to interpret, as evidenced below. Such ambiguities and opportunity for subjective judgment are fertile ground for error. This is particularly problematic, given that, over time, witnesses will remember the "gist" of what they observed and the conclusions they drew more clearly than the exact behaviors they observed at the time, as discussed below.

In the following Sections we first address difficulties in interpretation of sexual intentions and intoxication. We then discuss the ways in which intoxication and/or strong emotions can further facilitate errors and biases in interpretation.

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EYEWITNESS TESTIMONY: MEMORY FOR EVENTS 169, 172–73 (Michael P. Toglia et al. eds., 2006) (discussing the "internalized false confession" where the suspect comes to believe falsely that he or she actually did commit the crime).

<sup>18</sup> Claude M. Steele & Robert A. Josephs, *Alcohol Myopia: Its Prized and Dangerous Effects*, 45 AM. PSYCHOLOGIST 921, 923. (1990).

<sup>19</sup> Seema L. Clifasefi et al., *Blind Drunk: The Effects of Alcohol on Inattentive Blindness*, 20 APPLIED COGNITIVE PSYCHOL. 697, 702–03 (2006).

### 1. Communication and Miscommunication of Sexual Intentions

Though it is sometimes the case that sexual encounters are proposed and accepted very directly and explicitly, there are many that are developed over time, without explicit proposition and acceptance or negotiated through subtle and indirect means that are open, unfortunately, to misinterpretation. Research on sexual consent communications has identified three sources of misunderstanding entailed in such nonexplicit means of communicating sexual intentions.<sup>20</sup>

In the following sections we first address these three primary sources of misunderstanding, including (a) the tendency to use indirect forms of communication for sexual negotiations, (b) the multiple meanings of many behaviors reflecting (in part) sexual intentions, and (c) the existence of misleading cultural scripts reflecting widespread erroneous beliefs concerning the meaning of behaviors reflecting sexual intentions. We then consider the way in which the context in which relevant behaviors and communications take place, and the personal motivations of the participants can further promote misunderstanding.

*a. The problem of indirect communication.* Sexual communications, particularly those between parties who have not yet had sex, can carry significant risk. The initiator faces the possibility of rejection. The target faces several potential problems, including how to accept without seeming too “easy” or how to reject without damaging the initiator’s feelings. Both face risks of damaging the relationship or of fundamentally changing its nature. These must be balanced against the potential opportunity and rewards of increasing sexual intimacy. For these reasons, sexual negotiations often take place through indirect means, such as hints, innuendo, nonverbal behaviors, attempts to increase or display one’s attractiveness, tentative attempts at sexual contact, and gradual escalation of intimacy. Rejections may take the form of changing the subject, pretending not to understand the initiator’s intentions, or other behaviors intended to avoid directly saying “no.” These have in common the advantage that while they *can be* interpreted as sexual invitations or rejections, it is not true that they *must be* interpreted as such. Thus, the most threatening interpretation need not be adopted.

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<sup>20</sup> See, e.g., Deborah Davis & J. Guillermo Villalobos, *Language and the Law: Illustrations from Cases of Disputed Sexual Consent*, in THE OXFORD HANDBOOK OF LANGUAGE AND SOCIAL PSYCHOLOGY 438, 442–45 (2014); J. Guillermo Villalobos et al., *His Story, Her Story: Sexual Miscommunication, Motivated Remembering, and Intoxication as Pathways to Honest False Testimony Regarding Sexual Consent* 4–10 (Univ. San Francisco Law Res. Paper 2014–33), <http://ssrn.com/abstract=2480049> (forthcoming in WRONGFUL ALLEGATIONS OF SEXUAL AND CHILD ABUSE (Ros Burnett, ed.) (Dec. 2016)).



Professors James Lee and Steven Pinker formalized and tested these notions in the context of their theory of the “strategic speaker.”<sup>21</sup> The authors noted that use of indirect speech provides plausible deniability for the speaker’s intentions.<sup>22</sup> They further provided evidence that speakers are more prone to use indirect statements when the intended meaning would suggest a significant change in the nature of the relationship,<sup>23</sup> such as from platonic to sexual.

This dance of ambiguity characteristic of such risky communications serves to protect the egos of both parties and often to protect their existing relationship from damage. When necessary, the indirect communications allow the dyad to continue as if no sexual communications actually took place. Perhaps, in light of this, it is no surprise that explicit verbal means of either initiating or rejecting sexual advances are much less common than are indirect means.<sup>24</sup>

While, arguably, the actual meaning underlying most indirect communications is understood, they nevertheless provide opportunity for misinterpretation. If an indirectly stated sexual advance is missed, the misunderstanding may cost the initiator a sexual opportunity. But if an indirectly expressed rejection is misunderstood, the consequences can be much more severe. Rejection of a would-be romantic partner tends to be experienced as aversive for the rejector, not just the rejected.<sup>25</sup> Women’s tendencies to communicate refusal via indirect means<sup>26</sup> is perhaps most problematic in that that the man may proceed unchecked, without awareness that his advances are unwelcome. Or, as some have argued, the man may pretend to misinterpret the rejection—a claim that may be believed by others

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<sup>21</sup> See James J. Lee & Steven Pinker, *Rationales for Indirect Speech: The Theory of the Strategic Speaker*, 117 *PSYCHOL. REV.* 785 (2010).

<sup>22</sup> *Id.* at 790–91.

<sup>23</sup> *Id.* at 794–96.

<sup>24</sup> Susan E. Hickman & Charlene L. Muehlenhard, “By the Semi-Mystical Appearance of a Condom”: How Young Women and Men Communicate Sexual Consent in Heterosexual Situations, 36 *J. SEX RES.* 258, 266 (1999); Grace Y. Lim & Michael E. Roloff, *Attributing Sexual Consent*, 27 *J. APPLIED COMM. RES.* 1, 2–3 (1999); Lucia F. O’Sullivan & E. Sandra Byers, *College Students’ Incorporation of Initiator and Restrictor Roles in Sexual Dating Interactions*, 29 *J. SEX RES.* 435, 444 (1992); Timothy Perper & David L. Weis, *Proceptive and Rejective Strategies of U.S. and Canadian College Women*, 23 *J. SEX RES.* 455, 465–66 (1987).

<sup>25</sup> Samantha Joel et al., *People Overestimate Their Willingness to Reject Potential Romantic Partners by Overlooking Their Concern for Other People*, 25 *PSYCHOL. SCI.* 2233, 2239 (2014).

<sup>26</sup> See *supra* note 24.

who view the indirect response as ambiguous.<sup>27</sup>

Women (and men as well) widely report that the most common manner in which they consent to sexual activity is by failing to offer resistance.<sup>28</sup> Unfortunately, lack of resistance may also occur when the woman finds the sexual activity entirely unwelcome or aversive. Some evidence suggests that active resistance is less likely when the man is an intimate partner, rather than simply an acquaintance.<sup>29</sup> Lack of resistance can reflect socialization of women to be indirect and submissive (which varies across cultures), shock, confusion, shame, fear of the man and his reactions, excessive intoxication and other reasons.<sup>30</sup> Reflecting this ambiguity, a man may feel he has a perfectly willing partner, even as she is horrified and repulsed by the encounter.

*b. The problem of multiple meaning.* Indirect communications are, by definition, subject to multiple interpretations. But, arguably, any and all behaviors and statements potentially relating to sexual intentions are subject to multiple meanings. Even a very explicit statement of desire to have sex can mean the opposite, such as when a person says, clearly with irony or sarcasm, "I absolutely want to jump your bones right this minute!" (accompanied by attempts to throw the person on the bed). But many behaviors that tend to be perceived as reflecting sexual intentions or desires have multiple potential meanings, many with no intended relevance to sex at all.

For instance, many behavioral reflections of liking a person can also be interpreted as sexual interest, such as animated or intimate conversation, smiling, touch, physical proximity, spending time alone with the person, and expressions of interest in the person or what he is saying. Davis and colleagues, for example, asked men and women to indicate the meaning of more than 70 behaviors that women might perform in the context of a date (e.g., drinking or drug use, going somewhere alone, talking about sexual topics, dressing sexily).<sup>31</sup> For each behavior, women indicated whether they

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<sup>27</sup> E.g., Hickman & Muehlenhard, *supra* note 24, at 270.

<sup>28</sup> Heidi Collins Fantasia, *Really Not Even a Decision Any More: Late Adolescent Narratives of Implied Sexual Consent*, 7 J. FORENSIC NURSING 120, 123–24 (2011); Hickman & Muehlenhard, *supra* note 24, at 271.

<sup>29</sup> Sarah Ullman & Judith M. Siegel, *Victim-Offender Relationship and Sexual Assault*, 8 VIOLENCE & VICTIMS 121, 132 (1993).

<sup>30</sup> Villalobos et al., *supra* note 20, at 4–10. Charlene L. Muehlenhard et al., *Definitions of Rape: Scientific and Political Implications*, 48 J. SOC. ISSUES 23, 30–33 (1992); Jessica Woodhams et al., *Behavior Displayed by Female Victims During Rapes Committed by Lone and Multiple Perpetrators*, 18 PSYCHOL. PUB. POL'Y & L. 415, 419 (2012).

<sup>31</sup> Deborah Davis et al., *Seeds of Rape: Female Behavior Is Probative for Females*,

were more, less, or equally likely to perform the behavior when willing to have intercourse. They also indicated whether they never, sometimes, or often performed the behavior when *not* willing. Men answered the same two questions regarding what they thought women in general did regarding each behavior.<sup>32</sup>

The authors found that women reported that they were more likely to engage in many of the behaviors when willing to have intercourse. But they also often reported that they sometimes or often engaged in the behaviors when not willing.<sup>33</sup> Seventy percent of women reported, for example, that they were more likely to dress in a sexually provocative manner when willing to have intercourse, whereas 55% also reported that they sometimes or often did so when not willing.<sup>34</sup> Similar results were obtained for a number of other behaviors commonly viewed as probative of sexual intention, such as drinking or doing drugs together, going somewhere alone with him and others.<sup>35</sup>

Davis and colleagues identified behaviors for which there was most likely to be misunderstanding. The authors coined the term "rapeseed quotient" to refer to the likelihood of pairing a woman who sometimes or often performed the behavior when not willing to have intercourse with a man who believed that women never did the behavior unless willing to have intercourse.<sup>36</sup> They argued that these were the behaviors most likely to result in dramatic differences between men and women in understanding and interpretation of the woman's sexual intentions.<sup>37</sup>

Overall, the authors found considerable correspondence between the interpretations of women and men.<sup>38</sup> But there were some behaviors that men interpreted as more definitive indicators of willingness to have intercourse than women reported: such as allowing the man to touch her breasts or genitalia, talking about sexual topics, dressing very sexily, or performing oral sex.<sup>39</sup> For example, 40% of men believed that women perform oral sex if,

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*Definitive for Males*, in AMERICAN PSYCH. ASS'N & CRIM. JUST. SECT., AM. BAR ASS'N, PSYCHOLOGICAL EXPERTISE AND CRIMINAL JUSTICE 101, 107, 122-140 (1999).

<sup>32</sup> *Id.* at 107.

<sup>33</sup> *See id.* at 110, 122-28.

<sup>34</sup> *Id.* at 123.

<sup>35</sup> *Id.* at 124-25.

<sup>36</sup> *Id.* at 107.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.* at 112-13.

<sup>39</sup> *Id.* at 129-34.

and only if, willing to have intercourse.<sup>40</sup> In contrast, 40% of women reported doing so sometimes or often when not willing.<sup>41</sup> Such behaviors have multiple meanings for women. Women may have oral sex instead of intercourse for a variety of reasons, including, for example, to avoid intercourse, to avoid pregnancy, to please the man while not risking intercourse and others. This behavior then, is one many men tend to interpret as definitive, whereas women may be thinking differently. For the woman, it is as far as she is willing to go rather than an indication of how much farther. But such behaviors are those most likely to result in honest differences of interpretation, and those mostly likely to be misinterpreted or “overperceived” as indicating consent by the man, a phenomenon referred to as the “overperception bias.”<sup>42</sup>

Notably, while sex differences were minimal for most behaviors, and men tended to view most behaviors as less definitively indicating willingness to have sex than women reported to be true of themselves, the picture was quite different for behaviors involving drugs or alcohol. Men viewed such behaviors as both more probative and more definitive indicators of willingness to have intercourse than women reported them to be true for themselves; and the average rapeseed quotients were significantly higher than for any other behaviors studied. Such results are consistent with other research indicating that alcohol use is viewed as associated with sexual interest (see Section I.C.3.b below). Thus, the very fact of alcohol use may contribute substantially to honest misunderstandings of sexual intentions. For example, for the following behaviors, rapeseed quotients indicated that for 20-33% of randomly paired couples, the man would believe that women only perform the behavior when willing to have intercourse, whereas the woman

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<sup>40</sup> *Id.* at 132.

<sup>41</sup> *Id.* at 128.

<sup>42</sup> See Antonia Abbey, *Sex Differences in Attributions for Friendly Behavior: Do Males Misperceive Females' Friendliness?*, 42 J. PERS. & SOC. PSYCHOL. 830, 836–38 (1982). For additional reviews, see Antonia Abbey, *Sexual Assault Perpetration by College Men: The Role of Alcohol, Misperception of Sexual Intent, and Sexual Beliefs and Experiences*, 17 J. SOC. & CLINICAL PSYCHOL. 167, 171–72, 185–86 (1998); Betty H. La France et al., *Social-Sexual Interactions? Meta-Analyses of Sex Differences in Perceptions of Flirtatiousness, Seductiveness, and Promiscuousness*, 76 COMM. MONOGRAPHS 263, 279–83 (2009). Note that the existence and extent of an “overperception” bias among men has been recently challenged by findings of Professors Carin Perilloux and Robert Kurzban. See Carin Perilloux & Robert Kurzban, *Do Men Overperceive Women's Sexual Interest?*, 26 PSYCHOL. SCI. 70 (2014) (finding that when women responded concerning what they believed women would actually want given the behavior, the two genders responded more similarly, and that both genders indicated that womens' true sexual intentions were stronger than what they reported: that women tended to understate sexual intentions).

would report that she sometimes or often does it when not willing: get severely intoxicated in public with a man met that day; get moderately or severely intoxicated in private with a man met that day; get severely intoxicated in public or private with a date with whom one has not yet had sex; get severely intoxicated at a party with no date; leave a party with a person met that day (whether intoxicated or not); or get moderately to severely intoxicated with a date using marijuana, cocaine, ecstasy, or narcotics.<sup>43</sup>

Given the triple problems that (1) many behaviors are actually probative of women's sexual intentions, (2) none are definitive indicators of willingness, and (3) all are subject to multiple meaning, perceivers can face a difficult, error prone, and risky task of interpreting a woman's sexual intentions. This is made worse by the earlier reviewed tendency for sexual consent communications to take place via hints, innuendo, tentative attempts, and nonverbal and/or indirect communications.

*c. The problem of misleading cultural scripts.* Adding to the preceding problems of interpretation, substantial evidence suggests that some disturbing widespread cultural beliefs further promote misunderstanding. Specifically, such beliefs tend to inappropriately inflate perceptions of women's sexual intentions. Researchers have identified sexual scripts that exist to define expectations for how sexual encounters are to take place: who is to initiate sex and how, the conditions under which sex is to take place, the roles each gender is to play in both the initiation and conduct of sex, what indicates willingness versus resistance, and much more.<sup>44</sup>

Perhaps the most serious among these is belief in "token resistance" to sex, or the belief that women often say no at first, even when they actually do want to have sex.<sup>45</sup> Males believe in this notion, and a third to half of

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<sup>43</sup> See Davis, *supra* note 31.

<sup>44</sup> See Dan M. Kahan, *Culture, Cognition, and Consent: Who Perceives What, and Why, in Acquaintance-Rape Cases*, 158(3) U. PA. L. REV. 729, 793-98 (2010); N. Tatiana Masters et al., *Sexual Scripts Among Young Heterosexually Active Men and Women: Continuity and Change*, 50 J. SEX RES. 409, 413 (2013); see also Stacey J. Hust et al., *Establishing and Adhering to Sexual Consent: The Association Between Reading Magazines and College Students' Sexual Consent Negotiation*, 51 J. SEX RES. 280 (2014) (explaining the effects of magazine exposure on college students' sexual intentions regarding consent).

<sup>45</sup> See Charlene L. Muehlenhard, *Examining Stereotypes About Token Resistance to Sex*, 35 PSYCHOL. WOMEN Q. 676 (2011); Charlene L. Muehlenhard & Lisa C. Hollabaugh, *Do Women Sometimes Say No When They Mean Yes? The Prevalance and Correlates of Women's Token Resistance To Sex*, 54 J. PERSONALITY & SOC. PSYCHOL. 872 (1988); Susan Sprecher et al., *Token Resistance to Sexual Intercourse and Consent to Unwanted Sexual Intercourse: College Students' Dating Experiences in Three Countries*, 31 J. SEX RES. 125 (1994).

females report engaging in such token resistance.<sup>46</sup> This is done largely for impression management (in order not to appear promiscuous).<sup>47</sup> The problem is that this introduces genuine ambiguity, even in interpretation of very explicit refusals, particularly when other behaviors consistent with consent are present. Moreover, it introduces this actual ambiguity for a behavior many men already believe is likely to indicate consent. This situation can contribute both to rape and to vindication of the rapist. Jurors are significantly affected by such cultural scripts as well, which can carry more weight than legal definitions and instructions.<sup>48</sup>

*d. The effects of context.* Though we are unaware of research testing this proposition, it is highly plausible that interpretation of sexual intentions is heavily influenced by the context in which the man and woman meet and interact. For example, in sexualized contexts such as fraternity parties or bars, where hookups are common and expected, the same behaviors that might be recognized as irrelevant to sexual interest in other contexts (such as work) can be interpreted in more sexual terms.

*e. The filter of personal desires.* Adding to such context effects, the individuals who tend to populate sexualized contexts tend to be more receptive to sexual hookups. Individuals of both genders who are more receptive to short-term and casual sexual relationships are more prone to interpret behaviors as reflecting sexual interest<sup>49</sup>; and people are generally prone to project their own desires for sex onto those they are interacting with.<sup>50</sup> Generally, sexual motivation can lead to overperception of sexual interest in the target of one's desires.

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<sup>46</sup> Muehlenhard, *supra* note 45, at 679–80 (discussing men and women's use of and beliefs about the token resistance phenomenon); Muehlenhard & Hollabaugh, *supra* note 45, at 874 (finding that almost 40% of women studied said "no" when they meant "yes," approximately 85% said "no" when they meant "no," over 68% said "no" when they meant "maybe," and among sexually experienced women, over 60% engaged in token resistance); Sprecher et al., *supra* note 45, at 129–31 (discussing token resistance and consent to unwanted sex across American, Russian, and Japanese cultures, and finding that men as well as women engage in the phenomenon).

<sup>47</sup> *E.g.*, Muehlenhard & Hollabaugh, *supra* note 45, at 875.

<sup>48</sup> See Kahan, *supra* note 44, at 788.

<sup>49</sup> Emma C. Howell, et al., *The Sexual Overperception Bias Is Associated with Sociosexuality*, 53 PERSONALITY & INDIVIDUAL DIFFERENCE 1012, 1014–15 (2012).

<sup>50</sup> David Dryden Henningsen & Mary Lynn Miller Henningsen, *Testing Error Management Theory: Exploring the Commitment Skepticism Bias and the Sexual Overperception Bias*, 36 HUM. COMM. RES. 618, 628 (2010).

## 2. *Interpreting Intoxication*

In addition to problems with interpretation of sexual intentions, witnesses may have problems with interpretation of another's level of intoxication. As discussed earlier, observers may be asked to report on specific behaviors reflecting ingestion and/or intoxication. But they may also be asked for general impressions of the degree of either party's intoxication. This poses several challenges of interpretation. What is the relationship between amount consumed and intoxication or incapacitation for the specific person? Can he or she drink a lot and still function, or is (s)he a relatively "cheap drunk?" What is the relationship between intoxication and behavior for that person? Is (s)he normally extremely outgoing, aggressive or flirtatious, or is this a reflection of intoxication? Reporting subjective interpretations of intoxication without the needed personal context information can be significantly misleading, though other indicators, such as throwing up, slurring speech and others might be more objective.

## 3. *The Haze of Alcohol: Intoxication and Interpretation*

Whether interpreting sexual intentions or intoxication, an intoxicated person can be more subject to error. To understand how intoxication might compromise interpretation of what is observed, one must consider what is necessary for correct interpretation.

*a. Attention and interpretation.* Particularly when considering another's behavior (even the simplest statements), a great deal of contextual information is relevant. For example, the simple statement, "Whew, it sure is hot in here" might be interpreted as an actual comment on room temperature, as an indirect request to open a window, as a reflection of a menopausal hot flash, or as a comment on the sexiness of someone who just entered the room, among other possibilities.<sup>51</sup> Awareness of the immediate social context, the historical social context of those present, personal characteristics of the speaker and hearer and other contextual information can help to disambiguate the meaning successfully. Intoxication affects the complexity with which an event is processed, and the extent to which available relevant information is brought to bear on interpretation of what is perceived.

Claude Steele coined the term "alcohol myopia" to refer to the tendency of alcohol use to narrow the focus of attention to salient immediate stimuli,

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<sup>51</sup> Deborah Davis & Richard D. Friedman, *Memory for Conversation: The Orphan Child of Witness Memory Researchers*, in 1 THE HANDBOOK OF EYEWITNESS MEMORY: MEMORY FOR EVENTS 3, 22 (Michael P. Toglia et al., eds); see also Davis & Villalobos, *supra* note 20 at 439-40.

at the expense of other contextual information.<sup>52</sup> Intoxicated persons are less able to attend to multiple cues, relate incoming information to existing knowledge, draw abstract inferences, or process new semantic information.<sup>53</sup> The more remote the contextual cues, either in the immediate context or in memory, the less likely they are to be considered in any context, particularly when the person is intoxicated. That is, the narrowed focus of attention restricts the extent to which contextual information will be noticed.<sup>54</sup> Adding to this, intoxication-related impairments in executive functions and working memory make it more difficult and less likely for relevant contextual information to be retrieved from long-term memory.<sup>55</sup> The result, as Nobel prize-winning psychologist Daniel Kahneman put it, is judgment based on the assumption “WYSIATI” (What you see is all there is!).<sup>56</sup> Judgments are based only on what is most strongly drawing the perceiver’s attention, without consideration of the remaining relevant information.

During a sexual encounter this may result, for example, in the perceiver focusing only on another’s behavior without consideration of contextual cues, such as the level of the person’s intoxication, the relationship history between them relevant to current intentions, historical information about the person’s sexual behavior and preferences while not intoxicated, the impact of his or her own behavior on the other person’s, and other relevant information. Or, a witness may observe the accuser walking shakily and exclaiming, “Oh my God, I can’t walk straight!” (and infer—and later “remember”—that she was drunk), but fail to notice the contextual information that she was trying on her friend’s seven inch heels.

We have argued that the previously noted pervasive involvement of

<sup>52</sup> Steele & Josephs, *supra* note 18, at 923.

<sup>53</sup> *Id.*

<sup>54</sup> See, e.g., Alistair Harvey et al., *The Effects of Alcohol Intoxication on Attention and Memory for Visual Scenes*, 21 *MEMORY* 969, 979 (2013); Nadja Schreiber Compo et al., *Alcohol Intoxication and Memory for Events: A Snapshot of Alcohol Myopia in a Real-World Drinking Scenario*, 19 *MEMORY* 202, 208 (2011).

<sup>55</sup> Thomas O. Nelson et al., *Effects of Alcohol Intoxication on Metamemory and on Retrieval from Long-Term Memory*, 115 *J. EXPERIMENTAL PSYCHOL. GEN.* 247, 252 (1986); S.A. Magrys & M.C. Olmstead, *Alcohol Intoxication Alters Cognitive Skills Mediated by Frontal and Temporal Brain Regions*, 85 *BRAIN & COGNITION* 271, 274 (2014); Catharine Montgomery et al., *The Effects of a Modest Dose of Alcohol on Executive Functioning and Prospective Memory*, 26 *HUM. PSYCHOPHARMACOLOGY CLINICAL & EXPERIMENTAL* 208, 212–13 (2011); Michael A. Sayette et al., *Parental Alcoholism and the Effects of Alcohol on Mediated Semantic Priming*, 9 *EXPERIMENTAL & CLINICAL PSYCHOPHARMACOLOGY* 409, 412–13 (2001).

<sup>56</sup> DANIEL KAHNEMAN, *THINKING, FAST AND SLOW* 79, 85–88, 201, 209–11 (1st ed. 2011).



intoxication in claims of nonconsensual sex<sup>57</sup> is due in part to fact that intoxication can impair perception of sexual-consent relevant messages. This has been tested primarily for intoxicated men, who have been shown to be slower to recognize cues of nonconsent and to interpret messages of non-consent less accurately. Unfortunately, intoxicated women tend to convey less clear signs of refusal, and tend to do so at a later time in the interaction, thereby adding to the already present tendency for intoxicated men to misperceive.<sup>58</sup>

*b. Expectancies and interpretation.* A second way in which interpretation may be affected by intoxication concerns expectancies. In general, we tend to interpret what we see in line with what we expect<sup>59</sup> as well as with what we desire.<sup>60</sup> Alcohol enhances these tendencies such that the interpretations of intoxicated individuals are more affected by expectancies.<sup>61</sup> This happens in part because executive functions are impaired by alcohol.<sup>62</sup> When executive functions are impaired the person is less likely to, in effect, second-guess the accuracy of gut-reactions and expectations activated in the situation. Automatic first impressions based on these expectations will go uncorrected by more conscious controlled consideration of other information that is relevant to their accuracy. The result is that judgments are more driven by expectations of all sorts: including those based on the nature of the situation, beliefs about the persons involved, social stereotypes, alcohol expectancies, and others.

Thus, alcohol use can exacerbate the influence of expectations on interpretation. Moreover, a number of expectancies specific to intoxication

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<sup>57</sup> See sources cited *supra* note 6.

<sup>58</sup> Davis & Villalobos, *supra* note 20, at 444; Villalobos et al., *supra* note 20; Deborah Davis & Elizabeth F. Loftus, *What's Good for the Goose Cooks the Gander: Inconsistencies Between the Law and Psychology of Voluntary Intoxication and Sexual Assault*, in HANDBOOK OF FORENSIC PSYCHOLOGY: RESOURCE FOR MENTAL HEALTH AND LEGAL PROFESSIONALS 997, 1009, 1018–19 (William T. O'Donohue & Eric R. Levensky eds., 2004).

<sup>59</sup> See generally MICHAEL SHERMER, *THE BELIEVING BRAIN: FROM GHOSTS AND GODS TO POLITICS AND CONSPIRACIES—HOW WE CONSTRUCT BELIEFS AND REINFORCE THEM AS TRUTH* 259–61 (2011) (describing the psychological tendency to attend to information that confirms previously held beliefs and expectations over contradictory information).

<sup>60</sup> See generally David Dunning, *Motivated Cognition in Self and Social Thought*, in THE APA HANDBOOK OF PERSONALITY AND SOCIAL PSYCHOLOGY 777 (Mario Mikulincer et al. eds., 2014) (discussing epistemic pressures, affirmational pressures, and social-relational pressures, which lead people's to perceive "preferred conclusions").

<sup>61</sup> See, e.g., William H. George & Susan A. Stoner, *Understanding Acute Alcohol Effects on Sexual Behavior*, 11 ANN. REV. SEX RES. 92, 116 (2000).

<sup>62</sup> See Magrys & Olmstead, *supra* note 55.

have been documented, some particularly relevant to sexual interactions.<sup>63</sup> For example, alcohol facilitates sexual arousal (and interest in and enjoyment of sex), and many report using alcohol to facilitate these responses.<sup>64</sup> Men and women perceive others of both genders as more sexually aroused, easier to seduce and more willing to consent, and mutual alcohol consumption is viewed as a sign of sexual intent and/or consent.<sup>65</sup> Moreover, voluntary sexual activity is more likely among the intoxicated, and women are more likely to consume alcohol when willing than when not willing to have sex.<sup>66</sup> Perhaps for such reasons, alcohol is commonly used as a tool of seduction by both sexes, and the claims of rape for intoxicated accusers are perceived as less credible.<sup>67</sup>

Such findings make clear that significant expectancies exist to associate intoxication with voluntary sexual activity. Though these expectancies are likely to lead unintoxicated perceivers to attribute greater sexual intent to an intoxicated target, they are likely to exert even greater influence for intoxicated perceivers.

#### 4. *The Role of Emotion*

A final problem of encoding concerns the potentially high level of emotions involved in sexual situations generally, and in those involving distress and/or coercion specifically. Because strong emotions also impair executive functions, they can exert effects on encoding that are similar in many respects to those of alcohol—that is, those experiencing strong emotions tend to focus attention more narrowly (on emotion-relevant stimuli).<sup>68</sup> The more deliberative and corrective cognitive processes that would otherwise reduce the effects of expectancies on processing and interpretation are also less likely to occur when emotions are high.<sup>69</sup> The

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<sup>63</sup> For reviews, see Davis & Loftus, *supra* note 58, at 1000–15; Ameet B. Patel & Kim Fromme, *Explicit Outcome Expectancies and Substance Use: Current Research and Future Directions*, in HANDBOOK OF DRUG USE ETIOLOGY 147–64 (Lawrence M. Scheier ed., 2010); Abbey, *supra* note 6, at 482–83.

<sup>64</sup> Davis & Loftus, *supra* note 58, at 1000–09.

<sup>65</sup> *Id.*

<sup>66</sup> See also Davis et al., *supra* note 31, at 125.

<sup>67</sup> See Davis & Loftus, *supra* note 58, at 1004–05, 1007, 1017–18.

<sup>68</sup> See, e.g., Linda J. Levine & Robin S. Edelman, *Emotion and Memory Narrowing: A Review and Goal-Relevance Approach*, 23 COGNITION & EMOTION 833, 833–34 (2009).

<sup>69</sup> See Deborah Davis & Elizabeth F. Loftus, *Expectancies, Emotion and Memory Reports of Visual Events*, in THE VISUAL WORLD IN MEMORY 178, 190–95 (J.R. Brockmole ed., 2009); Levine & Edelman, *supra* note 68, at 842–43; Tomoe Nobata et al., *The Functional Field of View Becomes Narrower While Viewing Negative Emotional Stimuli*, 24 COGNITION &

specific nature of the emotions matter as well. Incoming information tends to be interpreted as consistent with those emotions.<sup>70</sup> An angry person, for example, is more likely to interpret others' behaviors as more hostile. At extreme levels, emotion can cause a catastrophic decline in cognitive functions and impair the ability to encode successfully at all.<sup>71</sup>

Not surprisingly, the effects of negative emotions and stress on eyewitness memory have been extensively studied,<sup>72</sup> as many criminal events produce such emotions for the victims and witnesses. A recent meta-analysis of such studies showed that witness stress was associated with poorer performance in identification of the perpetrator, including fewer correct identifications and more false identifications.<sup>73</sup> Moreover, stress was associated with poorer memory for other details<sup>74</sup>

These errors speak to the more general effects of emotion on the likelihood and quality of encoding. However, there is evidence that emotion affects the interpretation of stimuli and events as well, as illustrated by research on effects of affective priming.<sup>75</sup> For example, those experiencing anxiety tend to interpret others' emotional states more negatively,<sup>76</sup> and the same phenomenon occurs with depressed individuals.<sup>77</sup> Emotions tend to activate emotion-relevant schemas, behavioral scripts, and emotion-consistent information in memory, which then serve as context for interpretation of incoming information. In this way, both an accuser experiencing negative emotions during the encounter as well as the accused (who may have experienced very positive emotions at the time) can both be subject to distortion in interpretation of their own and others' behaviors and of other contextual information during the event in question.

EMOTION 886, 890–91 (2010).

<sup>70</sup> Joseph P. Forgas & Alex S. Koch, *Mood Effects on Cognition*, in HANDBOOK OF COGNITION AND EMOTION 231, 235–36 (Michael D. Robinson et al. eds., 2013).

<sup>71</sup> John Fazey & Lew Hardy, THE INVERTED-U HYPOTHESIS: A CATASTROPHE FOR SPORT PSYCHOLOGY? 10 (1988).

<sup>72</sup> Kenneth A. Deffenbacher, A Meta-Analytic Review of the Effects of High Stress on Eyewitness Memory, 28 L. & HUM. BEHAV. 687, 688–89 (2004).

<sup>73</sup> *Id.* at 694–98.

<sup>74</sup> *Id.* at 699–704.

<sup>75</sup> See, e.g., Joseph P. Forgas, *Affect and Cognition*, 3 PERSPS. ON PSYCHOL. SCI. 94, 98 (2008).

<sup>76</sup> Ai Koizumi et al., *The Effects of Anxiety on the Interpretation of Emotion in the Face-Voice Pairs*, 213 EXPERIMENTAL BRAIN RES. 275, 275 (2011).

<sup>77</sup> Jonas Everaert et al., Attention, Interpretation, and Memory Biases in Subclinical Depression: A Proof-of-Principle Test of the Combined Cognitive Biases Hypothesis, 14 EMOTION 331, 336 (2014).

## II. MEMORY FAILURES DURING STORAGE AND RETRIEVAL: FADING, DISTORTION, SUGGESTION AND RECONSTRUCTION

Regardless of what the person encodes about an event, this information does not stay stable in memory over time. Instead, it becomes subject to loss, fading, or change. Much of what is encoded is lost immediately,<sup>78</sup> and progressively more is lost over time. What remains tends to become less clear (fading), to become primarily semantic rather than sensory, and to change, largely in predictable ways.<sup>79</sup> These realities of memory failures, while often presenting only minor challenges for everyday life, can present serious issues in the context of litigation.

In the following sections we first review the contrast between the demands of the legal system for detail versus the limits of memory performance. We then consider the nature of memory, and the primacy of memory for the “gist” or essence of the event over memory for detail. We then review evidence of the vulnerability of gist memory to distortion, and specific sources of such distortion. These include intoxication, hindsight, personal motivations, internal and external suggestion, and problems of “source monitoring” (incorrect understanding of where “memories” come from).

### A. DEMANDS FOR ACCURATE DETAIL VERSUS REALITIES OF MEMORY PERFORMANCE

As we noted, the need for extensive details of sexual consent interactions stands in stark contrast to how memory works and to the actual capabilities of the parties and witnesses to provide such details accurately.<sup>80</sup> Memory for such a level of detail would not be fully accurate under any circumstances. But, as we noted, what is not attended to at the time it occurs is unlikely to be remembered later. And, what is not considered important at the time is less likely to be attended to, such as exactly what was ingested when. Many aspects of an event—whether overt behaviors or subjective thoughts and intentions—become important in hindsight, sometimes due to their relevance to legal issues, but would not seem equally important at the time they occurred, and therefore would not necessarily be attended to or encoded specifically into memory. If not encoded adequately at the time of

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<sup>78</sup> HERMANN EBBINGHAUS, *MEMORY: A CONTRIBUTION TO EXPERIMENTAL PSYCHOLOGY* 76–80 (Henry A. Ruger & Clara E. Bussenius trans. 1913) (1885).

<sup>79</sup> CHARLES J. BRAINERD & VALERIE F. REYNA, *THE SCIENCE OF FALSE MEMORY* 4, 59–96 (2005) (describing science of false memory).

<sup>80</sup> Deborah Davis & Elizabeth F. Loftus, *Inconsistencies Between Law and the Limits of Human Cognition: The Case of Eyewitness Identification* 29, 29–58, in *MEMORY AND LAW* (Lynn Nadel & Walter P. Sinnott-Armstrong eds., 2012).

the event they cannot be recalled accurately, if at all.

But in addition to the need for a large number of details, memory for the exact details is typically crucial. That is, the exact manner in which consent or lack of consent was conveyed can be crucial for deciding whether a reasonable person would understand it as such. Unfortunately, memory does not reliably preserve such exact details. Instead, memories can fade, become less clear, and sometimes be distorted. If the event is not completely forgotten, the sensory images and details fade relatively quickly, and the remaining memory tends to be for the gist of what happened, rather than for exact detail. This is most especially true for conversation or verbal statements, though it is also true for other nonverbal communications surrounding sexual encounters.<sup>81</sup>

Memories will also not stay stable over time. They may change, such that the person can remember things differently than they originally happened, or may remember things that never happened at all.<sup>82</sup> Each of these processes poses challenges for the accuracy of witness memory.

#### B. GIST REPRESENTATIONS CAN BE MISLEADING

The fact that we tend to remember the gist of experiences rather than the fine detail, has implications for the accuracy of memory. To appreciate this, keep in mind that memory is not simply a replay of sensory images of the event akin to a video, audio, or sensory tape replay. Instead, it consists of two general components. The first, called "verbatim" images, are much like such a sensory replay.<sup>83</sup> The second, "gist" memories, refers to the person's sense of the basics of what happened, and includes interpretation of the sensory images—for example, interpreted meaning (e.g., insult) versus the exact statement (e.g., "You really like to eat, don't you!").<sup>84</sup>

Put another way, gist represents the basic story the person tells him or herself about what was experienced, or the *beliefs* the person has about what happened. Gist memory is primarily semantic, and contains much less detail than the original event or the original sensory experiences of the event. Verbatim images fade more quickly than gist memories, leaving memory over time to consist primarily of gist, accompanied by less and less sensory detail as time goes on.

Each party is most likely to encode and remember gist interpretations of specific behaviors and the interaction as a whole, and evaluative/emotional

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<sup>81</sup> Davis & Friedman, *supra* note 51, at 11–12, 16–18, 21, 41.

<sup>82</sup> BRAINERD & REYNA, *supra* note 79, at 274–79.

<sup>83</sup> Davis & Loftus, *supra* note 69, at 197.

<sup>84</sup> *Id.*

reactions to their own and others' statements and behaviors. As a result, when asked about very specific content of another's statements or behaviors, a party or witness may be unable to answer with the needed degree of specificity. Instead, reports of what was done to ask for or convey consent or nonconsent will often be conveyed in general gist-based terms.

Often, such reports will convey an *outcome* (e.g., "I made it clear I didn't want this!" or "She made it very clear that she wanted it!") rather than what, specifically, was done to convey the message (e.g., "I pushed him away, and told him, "No, I don't want to." or "She took her clothes off and got into bed."). The problem arises when the specific actual communications were much less clear to the recipient than the outcome-based reports would suggest. In such circumstances, witness reports can give the impression that the speaker's desires were more clearly and definitively conveyed than they were.

That is, each person may or may not be remembering specific behaviors at all. For example, gist memories include emotional reactions to the event. Consider what may happen for sexual encounters that were voluntary at the time, but unwanted and perhaps unpleasant (that is, the woman did agree to have sex even if she would rather not have). If the accuser feels aversion to the sexual encounter at the time it occurs and later remembers primarily the emotion that she didn't like it, she may report that she clearly conveyed her unwillingness to the accused. But her report may be based on varying levels of specificity in memory for exactly how this was conveyed. She may assume her distaste was obvious: that her feelings would have shown overtly and be easily read by the accused. She may remember the gist of nonverbal cues she believes she displayed, but over-interpret their clarity to others. Or, she may remember clearly exactly what was said and done, such that the verbatim images correspond in meaning to the gist representations of the event.

For various reasons, however, verbatim memories for disputed sexual encounters may be less likely to be retained and reported than gist-based accounts. This is true for memories in general, as we previously noted. But several characteristics of sexual consent interactions, particularly those involving intoxicated parties, render this more likely. Prominently, these include the extended time frame across which sexual intentions are developed, conveyed and interpreted; the ongoing updating of interpretation for sexual intentions in which what is most clearly remembered is the current assessment; the well-documented tendency for conversations to be interpreted and remembered in terms of their gist meaning; and the effects of alcohol on the range and depth of encoding.

## C. GIST MEMORIES AND MEMORY DISTORTION

One prominent theory of memory, “fuzzy trace theory,” suggests that when verbatim images are weak (i.e., the person has less ability to, in effect, replay a tape of the event) and gist memories are strong, the person is most susceptible to memory distortion and to development of specific types of false memories.<sup>85</sup>

With gist memory the person has the idea that a particular event happened but does not possess strong verbatim images to support exactly how it happened, and therefore cannot fully replay the event in memory. Gist memories themselves may also be more or less detailed. Thus, the person may tell himself, “I spent the night with Mary and I don’t really like Mary.”

Generally, people like to make sense of experiences. This requires resolving them with existing knowledge and other experiences. Obvious inconsistencies are experienced as aversive and produce a need to resolve the inconsistency in a way that explains it satisfactorily (e.g., “I had to stay with Jerry because I was too drunk to drive home.” or “I tried to go home, but he forced me to stay.”). Often, this can happen explicitly and consciously as the person reasons with him or herself to resolve the inconsistencies, as illustrated by the bodies of research on “cognitive dissonance”<sup>86</sup> and “motivated cognition.”<sup>87</sup> Often, however, it occurs unconsciously, so that the person finds themselves thinking of the event differently without awareness of how the account had changed or been supplemented by new information that would make more sense of the experience.<sup>88</sup>

Restructuring of our experiences in memory is not limited to such motivational processes. In thinking of the gist of experiences, other knowledge becomes relevant to understand and interpret the experience. If, for example, a woman thinks of an event as “I was raped,” other knowledge of what is meant by rape, the ways rape can happen, what the alleged rapist is like, and much more becomes relevant to the event. When the person thinks of the event, this knowledge tends to get activated in memory (which works

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<sup>85</sup> See C.J. Brainerd & V.F. Reyna, *Fuzzy Trace Theory and False Memory*, 11 CURRENT DIRECTIONS PSYCHOL. SCI. 164, 166 (2002); BRAINERD & REYNA, *supra* note 79, at 82–89.

<sup>86</sup> See generally JOEL COOPER, COGNITIVE DISSONANCE: 50 YEARS OF A CLASSIC THEORY 2–3 (2007) (defining and explaining the theory of cognitive dissonance).

<sup>87</sup> See generally David Dunning, *Motivated Cognition in Self and Social Thought* 777, 777–96, in THE APA HANDBOOK OF PERSONALITY AND SOCIAL PSYCHOLOGY (Mario Mikulincer et al. eds., 2014) (same, with motivated cognition).

<sup>88</sup> Ezequiel Morsella et al., *Cognitive Conflict and Consciousness*, in COGNITIVE CONSISTENCY: A FUNDAMENTAL PRINCIPLE IN SOCIAL COGNITION 19–46. (Bertram Gawronski & Fritz Strack, eds. 2012).

by association), and can become confused with things that actually happened.<sup>89</sup> For instance, if thoughts of protesting overtly are activated in memory as central to the idea of “rape,” the person may incorrectly think she had overtly protested during the event.

These are the types of false memories predicted by fuzzy trace theory when verbatim images are vague or unclear and gist memories are strong. That is, the person’s broad knowledge and expectations of the type of event, or the people involved (including him or herself), or the emotions the person experiences, are activated when the gist memory is retrieved. If the verbatim images are not sufficiently strong to contradict this information, the activated information may be incorporated into the gist representation. In this way, false memories may form that are generally consistent with the gist of the event as the person remembers it, and with the many features, emotions, and expectations associated with it.<sup>90</sup>

This may be particularly true for the accuser, who is likely to have experienced disputed sexual encounters more negatively. For example, some researchers have provided evidence that negative emotion increases vulnerability to memory distortion.<sup>91</sup> Brainerd and colleagues, for example, argued that negative events are more likely to be encoded as “gists.”<sup>92</sup> Consistent with fuzzy trace theory, this would increase the likelihood of filling in blanks and reconstructing memories to become more consistent with this gist representation.<sup>93</sup> Others have provided evidence that positive emotions can also increase susceptibility to distortion (though in perhaps lesser degree), as might be true for the accused who pursued and enjoyed the disputed encounter.<sup>94</sup>

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<sup>89</sup> Brainerd & Reyna, *supra* note 85, at 166.

<sup>90</sup> *Id.*

<sup>91</sup> Thomas M. Hess et al., *Mood, Motivation, and Misinformation: Aging and Affective State Influences on Memory*, 19 AGING, NEUROPSYCHOLOGY, & COGNITION 13, 16 (2012); Stephen Porter et al., *Blinded by Emotion? Effect of Emotionality of a Scene on Susceptibility to False Memories*, 35 CAN. J. BEHAV. SCI. 165, 172 (2003); Stephen Porter et al., *A Prospective Investigation of the Vulnerability of Memory for Positive and Negative Emotional Scenes to the Misinformation Effect*, 42 CAN. J. BEHAV. SCI. 55, 59 (2010).

<sup>92</sup> C.J. Brainerd et al., *Developmental Reversals in False Memory: Effects of Emotional Valence and Arousal*, 107 J. EXPERIMENTAL CHILD PSYCHOL. 137, 150 (2010).

<sup>93</sup> *Id.* at 165.

<sup>94</sup> See Stephen Porter et al., *Prime Time News: The Influence of Primed Positive and Negative Emotion on Susceptibility to False Memories*, 28 COGNITION & EMOTION 1422, 1431–32 (2014); Linda Levine & Susan Bluck, *Painting with Broad Strokes: Happiness and the Malleability of Event Memory*, 18 COGNITION & EMOTION 559, 570–72 (2004).



#### D. GIST MEMORY AND DISTORTION IN THE CONTEXT OF INTOXICATION

As fuzzy trace theory suggests, the very conditions of encoding made more likely by intoxication are those that promote memory distortion over time.<sup>95</sup> When intoxicated, people form less clear verbatim memories. A person may remember the gist of what happened and have very strong emotions associated with it but lack very clear memory for detail. These are the very circumstances described above that promote false, but gist-consistent memories based on the person's emotional reactions and expectations of what was likely to have happened in such an event.

Consistent with the large body of research demonstrating such drifts of both autobiographical and general event memory toward consistency with other known or believed information,<sup>96</sup> we have argued that when a person is asked to remember the way they personally behaved while intoxicated, there is a tendency to answer in part based on how the person thinks he or she would behave in those circumstances, particularly when the memories of the event are vague or unclear.<sup>97</sup> Because people often behave very differently while intoxicated than they do when sober, inferences rooted in their self-concept and memories of their own past behavior about how they would behave while intoxicated can be quite wrong.<sup>98</sup> This would be more likely, of course, for a person without much history of severe intoxication, or much history in the kind of situation in question, as a basis for accurate expectations of their own behavior in that situation while intoxicated.

The issue of inference-based accounts can be particularly problematic when an interviewer wants very specific answers and the witness has only "gist" memories.<sup>99</sup> The pressures on witnesses to answer with detailed, precise information can be very strong and repetitive, and witnesses generally try to answer the questions asked of them. If the actual memory is a gist-based account he or she may well answer based on fuzzy thoughts about how (s)he would have behaved (based in part on vague memories of

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<sup>95</sup> Brainerd & Reyna, *supra* note 85, at 165.

<sup>96</sup> Harry P. Bahrick, *Loss and Distortion of Autobiographical Memory Content*, in *AUTOBIOGRAPHICAL MEMORY: THEORETICAL AND APPLIED PERSPECTIVES* 69, 72, (Charles P. Thompson et al., eds., 2014); *see generally* Robert A. Nash et al., *On the Persuadability of Memory: Is Changing People's Memories No More than Changing Their Minds?*, 106 *BRIT. J. PSYCHOL.* 308 (2014) (identifying confluence of research on belief and persuasion with research on memory and advocating further study).

<sup>97</sup> Davis & Loftus, *supra* note 58, at 1019–20.

<sup>98</sup> *Id.*

<sup>99</sup> *See supra* notes 83–94 and accompanying text.

what happened combined with guesses or assumptions about how it would have happened).

A large body of research has documented the way in which memory can be reconstructed to fit current knowledge. For example, in a classic demonstration of hindsight-based reconstruction of memory for conversation, Ulric Neisser compared John Dean's testimony during the Watergate hearings to the actual tapes of his conversations with President Nixon.<sup>100</sup> John Dean found out after the original conversations took place that the Watergate cover-up was discovered, and that it cost Nixon his presidency.<sup>101</sup> And, Dean testified at the Watergate hearings that he had warned the president in advance that the deception would be discovered, and that he would lose the presidency because of it.<sup>102</sup> But the tapes of his conversations with Nixon revealed that he had never given such warnings!<sup>103</sup> Although it is possible that Dean knowingly made this false claim, Neisser suggested, and hindsight research would as well, that Dean simply misremembered.<sup>104</sup> Given the outcome, it made sense to him that he would have foreseen it. And if he foresaw it, it made sense that he would have warned the president.<sup>105</sup> His memory of the past was likely reconstructed in light of his present knowledge of the outcome.<sup>106</sup>

A laboratory study by Linda Carli illustrated such hindsight effects in a rape-relevant context.<sup>107</sup> All participants read a scenario of an interaction between a man and a woman, and afterward learned of one of two endings to the encounter.<sup>108</sup> Half were told that the man ended up raping the woman, whereas the other half were told he ended up proposing marriage.<sup>109</sup> Later, their memories of the encounter were tested.<sup>110</sup> Each group developed some false memories for what happened: Those told the woman was raped remembered more false details consistent with the outcome of rape; whereas those told the man proposed remembered more false details consistent with

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<sup>100</sup> Ulric Neisser, *John Dean's Memory: A Case Study*, 9 *COGNITION* 1, 4-19 (1981).

<sup>101</sup> *Id.* at 9-10.

<sup>102</sup> *See id.* at 9.

<sup>103</sup> *See id.* at 7-8.

<sup>104</sup> *Id.* at 9-10.

<sup>105</sup> *Id.* at 10.

<sup>106</sup> *Id.*

<sup>107</sup> *See* Linda L. Carli, *Cognitive Reconstruction, Hindsight, and Reactions to Victims and Perpetrators*, 25 *PERSONALITY & SOC'Y PSYCHOL. BULL.* 966, 966-78 (1999).

<sup>108</sup> *Id.* at 971.

<sup>109</sup> *Id.*

<sup>110</sup> *Id.*

romance and the proposal.<sup>111</sup> Each group remembered fewer false details that were inconsistent with the outcome they had learned of.<sup>112</sup> As with John Dean, memories were reconstructed in hindsight to be consistent with their updated knowledge: to make sense in light of what they now knew to be true.

Such results provide a cautionary tale for interpretation of witness accounts of observations of the accused and accuser. Once an allegation of rape is made known, such witnesses are in a position similar to that of participants in Carli's study. They saw what they saw. But now they are remembering it in the context of new information that can restructure their understanding and memory of what they saw. The nature of that restructuring may well depend upon the new "gist" label they give to the story. Will that label be "rape?" Or will it be "false allegation?" Each has different implications for what restructuring would be "gist-consistent."

Similar processes would occur with memory for intoxication. To the extent witnesses have stronger gist memories of the alleged victim's level of intoxication than verbatim memories, susceptibility to memory distortion will be increased.<sup>113</sup>

The direction of memory distortion will be affected by the witness's general attitudes and beliefs, specific attitudes and beliefs concerning the parties and events in question, and personal preferences and motivations. That is, for those inclined to view the incident as rape (such as the victim or sympathetic witnesses), memory for indicators of intoxication is likely to become distorted to reflect greater apparent intoxication, whereas the reverse is likely to be true for the accused and those sympathetic to him.

Also, as suggested by the research on hindsight and memory reviewed earlier,<sup>114</sup> judgments and memories may become distorted to align with the likelihood of rape, simply because witnesses learn of the accusation. The chances of such distortion would be enhanced if witnesses are exposed to other "evidence" in support of the accusation of rape.

#### E. THE PROBLEM OF MOTIVATED MEMORY DISTORTION

Once the potential interpretation of rape is raised, a number of motivations arise in both accuser and accused. Both may be intensely concerned with understanding the encounter: what happened exactly, why

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<sup>111</sup> *See id.*

<sup>112</sup> *Id.*

<sup>113</sup> *See Brainerd & Reyna, supra note 85, at 165-67; BRAINERD & REYNA, supra note 79, at 100-06.*

<sup>114</sup> *E.g., Carli, supra note 107.*

each behaved how they did, and why each is interpreting things differently. Each is also likely to be concerned with defending their interpretation (to themselves and others), and with the social and legal consequences for each interpretation (false allegation versus rape versus honest misunderstanding, etc.). Memory may also be distorted by the need for self-justification and self-esteem maintenance.<sup>115</sup>

For instance, among the many emotions arising in cases of alleged sexual assault is that of shame. To the extent that voluntary sexual activity with the defendant would be regarded as shameful for whatever reason, the witness may misremember the sexual encounter as nonconsensual to avert such feelings and to protect self-esteem.

Shame may be provoked for a variety of reasons. The accuser may feel that sexual behavior under the circumstances of the event in question may be inappropriate. She might feel that sex had occurred too soon in the relationship. It might have involved infidelity on either person's part (as it did for Helen). Sex with the specific accused person might be embarrassing: because he is unattractive, or otherwise undesirable. Such feelings of shame can be intensified by comments from friends or police interviewers. Whatever their source, feelings of shame can motivate both accused and accuser to view the event differently from the way it actually happened. With a rape interpretation, the accuser need not feel so much shame as she would for having committed the actions voluntarily. With a consensual interpretation, the accused need not feel as much shame as if he or others were to see him as a rapist.

In some cases the reverse might be true. That is, the victim may feel shame (or be shamed by others) as the result of behaviors she or others may feel contributed to the rape: such as going somewhere alone with the rapist, drinking with him, affectionate behaviors, and others. Such feelings can contribute to self-blame, fears of social reactions, and failures to report rape when it does occur.<sup>116</sup>

Changes in feelings toward the other party can provide additional context and motivations with potential to, in hindsight, alter interpretations of behavior. This can happen in response to divorce, breakups, unanticipated post-event behaviors (such as when the man does not call, or the woman has had sex with someone else). Because our original interpretation of events, as

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<sup>115</sup> CAROL TAVRIS & ELLIOT ARONSON, *MISTAKES WERE MADE (BUT NOT BY ME): WHY WE JUSTIFY FOOLISH BELIEFS, BAD DECISIONS, AND HURTFUL ACTS* 78–82 (2007).

<sup>116</sup> COLLEEN A. WARD, *ATTITUDES TOWARD RAPE: FEMINIST AND SOCIAL PSYCHOLOGICAL PERSPECTIVES* 124–28 (1995); ROBIN WARSHAW, *I NEVER CALLED IT RAPE: THE MS. REPORT ON RECOGNIZING, FIGHTING, AND SURVIVING DATE AND ACQUAINTANCE RAPE* 56–79 (1988).

well as later memory for those events, tends to be distorted toward consistency with other relevant beliefs, negative feelings or beliefs about the other can produce negative interpretations and memories. If one develops a negative impression of the person after the fact, their actions tend to be reinterpreted in hindsight in more negative terms than they were experienced at the time.<sup>117</sup> Thus, while motivations such as hatred, jealousy, revenge, hurt feelings, and so on may lead to deliberate false reports, the same motivations can also lead to honest errors of memory.

It is interesting to note that even the process of repeatedly thinking about the event by oneself, or in the context of a nonsuggestive interview or conversation, can promote the development of false gist-consistent memories. Because the person is led to retrieve the gist memory, the additional gist-relevant knowledge, expectations, and emotions can be activated with each retrieval, posing successively more opportunity to confuse the original and self-activated relevant material, and to add to or distort memory.<sup>118</sup> But additional bias is introduced by motivations surrounding the interpersonal conflict, public accusations, and social and legal consequences.

It is also important to note that things that have been actively thought about or imagined can later be falsely remembered as having actually happened—in a process known as “imagination inflation.”<sup>119</sup> Such false memories can develop for the very mundane (such as falsely remembering saying something one only intended to say) to the seemingly impossible (such as falsely remembering being the victim of satanic ritual abuse spanning multiple years).<sup>120</sup> Laboratory studies have shown that memories for events that never happened (such as being bitten by animals, rides in hot air balloons, witnessing demon possession and many others) can be planted in participants through procedures involving suggestion and active

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<sup>117</sup> For evidence that current emotions can distort memory for the past, see Linda J. Levine et al., *Remembering Past Emotions: The Role of Current Appraisals*, 15 *COGNITION & EMOTION* 393, 411–14 (2001); Martin A. Safer et al., *Distortion in Memory for Emotions: The Contributions of Personality and Post-event Knowledge*, 28 *PERSONALITY & SOC. PSYCHOL. BULL.* 1495, 1504 (2002).

<sup>118</sup> Brainerd & Reyna, *supra* note 85, at 164–69; Brainerd & Reyna, *supra* note 79, at 415–19.

<sup>119</sup> Maryanne Garry, et al., *Imagination Inflation: Imagining a Childhood Event Inflates Confidence that It Occurred*, 3 *PSYCHONOMIC BULL. & REV.* 208, 209 (1996); see also Brainerd & Reyna, *supra* note 79, at 415–19; D. Stephen Lindsay, *Autobiographical Memory, Eyewitness Reports, and Public Policy*, 48 *CAN. PSYCHOL.* 57, 59 (2007) (suggesting that being asked to recall a memory may lead to false recollections).

<sup>120</sup> Elizabeth F. Loftus & Deborah Davis, *Recovered Memories*, 2 *ANN. REV. CLINICAL PSYCHOL.* 469, 476 (2006); Lindsay, *supra* note 119, at 59.

imagination and attempts to remember.<sup>121</sup> More extreme false memories typically develop through a combination of activities entailing actively picturing and imagining the events, and suggestion from one or more apparently credible sources that the events did occur.<sup>122</sup>

#### F. THE IMPACT OF SUGGESTION

In addition to self-generated distortions in memory, memories can be affected by external suggestion. This can come from the many official interviews triggered by a criminal allegation; conversations with other witnesses, friends, or family; media accounts; reading books and articles on sexual assault; and other sources.<sup>123</sup> Suggestion may also occur in therapy should an accuser seek it out, and a number of therapeutic practices are sufficiently suggestive to alter memory or to create false memories for events that never occurred<sup>124</sup>.

Suggestion from any source can take the form of direct suggestions concerning the nature of the event, the persons involved, interpretations of behaviors, etc. In one case for which the lead author (Davis) served as an expert witness, the accuser and her long-time live-in boyfriend had engaged in what she thought of as somewhat rough sex for years. But when she described the details of their sexual activities to a new friend, the friend immediately exclaimed, "But that's rape, he's been raping you for years!" This led the accuser to redefine what happened, and ultimately to file charges.

Such labeling and redefinition may come from friends, therapists, police or others, and can lead the witness to mentally review what happened in this new light and come to remember it differently. The accuser may remember more aggressive behaviors by the defendant and her own protests as more forceful and clear than occurred at the time. The accused may remember the accuser's behaviors as more provocative when others label the accuser as a liar.

Helen, from our example case, may have been influenced for somewhat different yet similar reasons. She had engaged in a number of behaviors viewed by both men and women (and jurors) as consistent with consent,<sup>125</sup> such as drinking before and after they went to Jerry's house, showing affectionate behaviors toward Jerry, agreeing to spend the night, and so on. Awareness of these behaviors may have stopped her from calling the sexual

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<sup>121</sup> *Id.* at 478–79.

<sup>122</sup> *Id.*

<sup>123</sup> *Id.* at 483.

<sup>124</sup> *Id.* at 480–88.

<sup>125</sup> Davis et al., *supra* note 31, at 101–40; WARD, *supra* note 116, at 101, 103.

encounter rape, and stopped her from reporting it, until she talked with her friend Chelsea two days later, who called it rape and who spent some time encouraging Helen to report it. Chelsea had clearly judged that, on balance, the encounter was not consensual despite Helen's behaviors leading up to intercourse. This could have led Helen to reinterpret in hindsight, or to remember slightly differently, her own behaviors as more overtly and clearly resistant to intercourse or as more clearly communicating that staying the night and other behaviors did not mean consent.

It is worth noting that feedback from others concerning emotional reactions to an event can affect subsequent emotions and memories. If this feedback encourages distress, it can promote more negative memories of the event and the emotions felt during it.<sup>126</sup>

### *1. Intoxication and Suggestibility*

External suggestion might be especially powerful for those who were intoxicated during the encounter, for whom memories are likely to be less clear. Generally, studies of social influence and of memory conformity, specifically, have shown that those who are less certain of a particular fact or issue are more susceptible to influence from others.<sup>127</sup> This is true for many intoxicated accused and accusers, some of whom might possess virtually no memories of what happened.

### *2. Interrogation, Memory Failures, and False Confession*

A unique problem of memory can become relevant for the accused. If the accusation is made to police, it is likely the accused will be interrogated and a confession sought. Davis and Leo argued that those suspected of sexual assault and other he-said, she-said kinds of allegations suffer enhanced vulnerability to interrogation-induced confession, including false confession.<sup>128</sup> Resistance to interrogation is fueled in part by awareness of innocence (if innocent) and self-efficacy in defense against the allegations.

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<sup>126</sup> Melanie K. T. Takarangi & Deryn Strange, *Emotional Impact Feedback Changes How We Remember Negative Autobiographical Experiences*, 57 *EXPERIMENTAL PSYCHOL.* 354, 356–58 (2009).

<sup>127</sup> Deborah Davis & Elizabeth F. Loftus, *Internal and External Sources of Distortion in Adult Witness Memory* 195, 209–11, in 1 *HANDBOOK OF EYEWITNESS PSYCHOLOGY: MEMORY FOR EVENTS* (Michael P. Toglia et al. eds., 2007).

<sup>128</sup> Deborah Davis & Richard A. Leo, *When Exoneration Seems Hopeless: The Special Vulnerability of Sexual Abuse Suspects to False Confession* 5–6, *passim* (Univ. San Francisco Law Res. Paper 2014–25), <http://ssrn.com/abstract=2481397> (forthcoming in *WRONGFUL ALLEGATIONS OF SEXUAL AND CHILD ABUSE* (Ros Burnett, ed.) (Dec. 2016)).

Interrogation tactics are intended to undermine this self-efficacy to convince suspects that they are hopelessly caught, that the evidence overwhelmingly implicates them, and that no one will believe their story. This makes it easier for the remaining tactics to convince suspects that confession is in their best interests.<sup>129</sup>

In part, self-efficacy is undermined by the nature of the evidentiary situation characteristic of acquaintance rape allegations. That is, there is often no evidence other than the accounts of each party. No evidence can be imagined or found to prove the accused's innocence, and he may feel the accuser is likely to win the contest of credibility.<sup>130</sup> However, an additional level of vulnerability is posed by failures of memory. Interrogators will argue that the suspect is guilty and promote the accuser's version of the events in question. If the suspect has no clear memories to dispute the specific accusations, or to dispute the interpretation of actions that did take place, he can be more vulnerable to becoming convinced of the interrogator's or accused's versions of the events. Gisli Gudjonsson has reviewed evidence that "memory distrust" plays a significant role in causing false confessions of the type where the suspect comes to believe incorrectly that he did commit the crime.<sup>131</sup> If the accused's memory is significantly impaired by alcohol, this mechanism of false confession may become more likely.

This source of uncertainty may also play a role in a suspect's seeming "confession" to the accuser in the context of pretext calls made by the accuser at the behest of police investigators, and designed to elicit incriminating statements.<sup>132</sup> Police often request that alleged victims of sexual assault make such calls, allowing police to record them. The victim is to try to elicit incriminating statements from the accused, to lead him to acknowledge in some form that the encounter was non-consensual. She may tell him how much he hurt her, ask him why he did that, talk about her attempts to resist, and ask for an apology.<sup>133</sup> If the accused is confused and doesn't remember

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<sup>129</sup> Deborah Davis, *Lies, Damned Lies, and the Path from Police Interrogation to Wrongful Conviction* 211, 211–47, in *THE SCIENTIST AND THE HUMANIST: A Festschrift in Honor of Elliot Aronson* (Marti Hope Gonzales et al. eds, 2010); Deborah Davis & Richard A. Leo, *The Problem of Interrogation-Induced False Confession: Sources of Failure in Prevention and Detection*, in *HANDBOOK OF FORENSIC SOCIOLOGY AND PSYCHOLOGY* 47, 58 (Stephen J. Morewitz & Mark L. Goldstein eds., 2014).

<sup>130</sup> Davis & Leo, *supra* note 128, at 16–18.

<sup>131</sup> Gisli Hannes Gudjonsson et al., *The Role of Memory Distrust in Cases of Internalised False Confession*, 28 *APPLIED COGNITIVE PSYCHOL.* 336, 344–46 (2014).

<sup>132</sup> Deborah Davis & J. Guillermo Villalobos, *Language and the Law: Illustrations from Cases of Disputed Sexual Consent*, in *THE OXFORD HANDBOOK OF LANGUAGE AND SOCIAL PSYCHOLOGY* 438, 445 (Thomas M. Holtgraves, ed. 2014).

<sup>133</sup> *Id.*



clearly, he may acquiesce to the claims of the accuser to avoid conflict in the absence of real memory of what she suggests.

G. THE PROBLEM OF SOURCE MONITORING: WHERE DID THIS  
"MEMORY" REALLY COME FROM?

The images that one develops in the process of planning what to say during an event, or in the process of thinking, talking, or answering questions about the event later, can be confused with reality. So can "facts" and interpretations encountered after the event. The real source of the image (the memory) can be one's own imagination or someone else's recounting or suggestions, but one might misattribute it to something actually experienced. This, in essence, is the problem of "source monitoring": that is, incorrect understanding of where the memory really came from.<sup>134</sup>

As we have shown, the memory may have been altered or added to through normal processes of gist-consistent drift, or through the various sources of auto-suggestion, imagination, motivation, and external suggestion reviewed above. However, a final source of memory intrusion can be important for sexual assault cases.

*Did I Actually Say/Do This or Just Think About It?* Sexual interactions can involve intense emotions, and many thoughts and feelings are never expressed to the other party. In an interaction where the woman, for example, feels distress, does not really want to have sex, and is not enjoying it she may think about many things she would like to say or do to stop the interaction or express her displeasure. But she may not overtly do so. As is often the case with sexual or interpersonal matters, there may be many forces discouraging expression of one's true thoughts and feelings. But research on memory for conversation has shown that false memories can occur for having actually said what one actually only thought about, or had wanted to or intended to say, but didn't.<sup>135</sup> An accuser may well falsely remember that she overtly said or did things that she only thought about. Likewise, the accused may falsely remember saying or doing things he did not. Each may falsely remember the other saying or doing things they thought about, hoped for, or anticipated in their imaginations.

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<sup>134</sup> Marcia K. Johnson & Carol L. Raye, *Reality Monitoring*, 88 *PSYCHOL. REV.* 67, 82 (1981); Marcia K. Johnson et al., *Source Monitoring*, 114 *PSYCHOL. BULL.* 3, 3-4 (1993); Lindsay, *supra* note 119, at 58-59.

<sup>135</sup> Deborah Davis et al., *Memory for Conversation on Trial* ch. 12, at 12-18 to -19, in *HANDBOOK OF HUMAN FACTORS IN LITIGATION* (Y. Ian Noy & Waldemar Karwowski eds., 2005); Davis & Friedman, *supra* note 51, at 36-37.

## CONCLUSIONS

Obviously some accused people have knowingly and deliberately violated an accuser's unambiguous refusal of sex. But in many cases where sexual assault is alleged, there is honest disagreement in interpretation of consent between the parties. Difficulties in defining the nature of consent itself, as well as in interpreting implications of the statements and actions of each party, make the determination of whether consent was granted a difficult task.<sup>136</sup> These difficulties can become magnified when memory of the events is necessary to their resolution.

Accusations of acquaintance rape have long been largely a contest of credibility. Who is lying? Who is telling the truth? How can we tell? Our analysis suggests that such cases are not just a contest of honesty, but are often, instead, a contest of memory. Both may be "honest liars" who believe earnestly in their accounts, unaware of the extent to which their own memories deceive.

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<sup>136</sup> See generally ALAN WERTHEIMER, *CONSENT TO SEXUAL RELATIONS* (2003).

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