

Ritual and Signature in Serial Sexual Homicide

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Ritual and signature are fantasy-driven, repetitive crime scene behaviors that have been found to occur in serial sexual homicide. Notwithstanding numerous anecdotal case reports, ritual and signature have rarely been studied empirically. In a national sample of 38 offenders and their 162 victims, we examined behavioral and thematic consistency, as well as the evolution and uniqueness of these crime scene actions. The notion that serial sexual murderers engage in the same rituals and leave unique signatures at every scene was not supported by our data. In fact, the results suggest that the crime scene conduct of this group of offenders is fairly complex and varied. Implications of these findings for forensic assessments and criminal investigations are discussed.

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Since the early case studies of sexual murder by von Krafft-Ebing,¹ offenders have been reported to engage in various crime scene behaviors that are unnecessary in the commission of the homicide. For example, several of the individuals von Krafft-Ebing cited not only killed their victims, but filled their mouths with dirt, pulled their hairpins out, pressed their hands together, subjected them to humiliation and torture, and often took something from them of little value. Authors of other early publications^{2–5} found similar behavior in sexual murderers. Many investigators concluded that these seemingly unnecessary activities (i.e., unnecessary for successfully accomplishing the crime) served a psychological purpose. The offender needed to engage in such actions to feel sexually gratified^{1,6–10}; killing the victim was not sufficient.^{11,12}

Such crime scene behaviors, which more often than not are repetitive, have been found to be an outgrowth of the perpetrator's deviant sexual fanta-

sies,^{8,13–15} wherein the murder and the repetitive acts are parts of the offender's sexual-arousal pattern.^{16,17} In empirical studies, some have investigated the connection between offenders' deviant sexual fantasies and how their crimes were carried out. For instance, MacCulloch *et al.*¹⁸ found that 81 percent ($n = 16$) of men (identified in a British forensic hospital) who had committed a sadistic sex crime admitted that their masturbatory fantasies were related to their deviant crime scene behavior. Similarly, Burgess *et al.*¹⁹ found that 80 percent ($n = 36$) of sexual murderers (identified by the FBI in various U.S. prisons between 1979 and 1983) reported masturbatory fantasies directly connected to how their offenses were enacted. A relationship between ($n = 25$, using some of the 1979–1983 FBI sample) fantasies and crime scene actions has been found by Prentky *et al.*²⁰ in a slightly higher number (86 percent) of serial sexual killers.

The question has never been whether these seemingly unnecessary repetitive crime scene actions occur, since they have been described in various case reports for well over a century. Instead, the questions are how consistently they occur across crimes, how unique they are, and how they might serve as an investigative aid. In the early 1980s, the FBI's Behavioral Science Unit began studying the crime scene behavior of sexual murderers, with particular emphasis on serial sexual murderers, to help in the construction of profiles^{21,22} of unidentified offenders. They

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differentiated an offender's *modus operandi* (his conscious technique of committing a crime) from the repetitive behavior (unnecessary for the successful completion of the crime and often similar among crimes, appearing to be ritualistic) that was fantasy-driven. Because the repetitive-ritualistic acts stem from the offender's fantasies, which are somewhat distinctive for each individual,^{23,24} it has been suggested that fantasy-driven rituals are also unique, perhaps as unique as an individual's signature.²⁵ Accordingly, this type of signature behavior had been termed the perpetrator's calling card²⁶ and can be used to connect or link a series of crimes to the same individual.^{25,27,28}

Douglas and Munn explained that the *modus operandi* (M.O.)

“. . . is a learned behavior that . . . evolves as an offender gains experience and confidence [by committing more crimes, . . . while] . . . the signature [a term that, unfortunately, has been often used synonymously with ritual] aspect stays the same, whether it is the first offense or one committed ten years later. The ritual may evolve, but the theme remains constant” [Ref. 25, pp 3–4].

For example, Hazelwood and Warren found that the “signature” ritualistic aspect of the crime . . . does not change dramatically; it is designed to meet the offender's motivationally driven fantasy and, therefore, remains psychosexually arousing to him over time” (Ref. 29, p 127). In fact, ritualistic behavior serves such strong emotional needs of the offender that it may increase his chances of being apprehended. He may, for example, leave additional evidence behind, spend unnecessary time at the crime scene, or return to the scene to carry out additional acts with the body.

Hazelwood and Warren³⁰ drew a distinction between ritual (repetitive acts at the crime scene) and signature: “a unique combination of behaviors that emerges across two or more offenses” (Ref. 30, p 590). They were quite deliberate in their discussion of ritual. For instance, they argued that the ritual may not occur in every crime in a series because of several factors, such as time availability, the offender's mood, and various external circumstances that could dilute, modify, or interrupt the commission of a crime. Moreover, “some [features] of the crime may serve as part of the ritual and not be recognized as such . . . or [may be] mistakenly taken to be part of the M.O., while in other cases some element of the crime . . . may function as both M.O. and ritual” (Ref. 30, p 590). Adding to the complexity of recog-

nizing ritualistic behavior are instances where “one or more ritualistic aspects of the crime remain known only to the offender” (Ref. 30, p 590) and may be recognized only after the subject is apprehended and examined and his records and belongings analyzed. In addition, these authors found that serial sexual offenders who act impulsively with little planning often do not engage in ritualistic (or signature) behavior because of the undifferentiated nature of their fantasy lives. In contrast, offenders who plan their crimes and who have detailed and elaborate fantasy lives engage in distinct ritualistic or signature acts.

Most of our knowledge of ritualistic and signature behavior has been gained from clinical practice experience through the evaluation of offenders^{6,13,14,31} and from criminal investigations.^{32–35} The incidence of ritualistic behavior in some cases of serial sexual homicide has been found to be as high as 95 percent,¹⁷ but the consistency with which offenders exhibit this behavior in a series of victims is unclear. Recently, Bateman and Salfati³⁶ studied behavioral consistency in a sample (obtained from the Homicide Investigation and Tracking System in Seattle) of 90 offenders, each of whom had committed at least five homicides. These researchers found a relatively high level of behavioral consistency in what seemed to be ritualistic acts: a 72.8 percent incidence in those offenders who disfigure, 83.7 percent in those who engage in antemortem sex, 85.6 percent in those who torture, 85 percent in those who have the victim perform oral sex, and 88.3 percent in those who engage in vaginal sex. These results lend some empirical support to the notion that there is consistency in repetitive-ritualistic behavior; however, the study did not use a homogenous sample of serial sexual murderers and did not address the question of whether these ritualistic acts are unique and can be legitimately considered to be an offender's signature.

Method

This study was an empirical examination of ritualistic and signature behavior in serial sexual-homicide offenders, in which six questions were posed: Do perpetrators of serial sexual homicide engage in ritualistic behavior? Do these offenders engage in ritualistic behavior consistently with every victim? Is the theme of the ritual consistent across victims? Is there evolution or elaboration of the ritual across victims? Is the ritual not only consistent but also unique, so that it can be legitimately referred to as signature? Do

offenders experiment at a crime scene and do something unique with one, or more than one, victim in a series?

To answer these questions, we studied a nonrandom national sample (with its inherent limitations) of 38 sexually motivated serial homicide offenders and their 162 victims. The cases were supplied by the FBI's Behavioral Science Unit. All cases were closed and fully adjudicated and were contributed by law enforcement agencies around the country for research purposes. Although various units of the FBI have access to additional cases, these were the only ones available at the Behavioral Science Unit where our study was conducted. There were no criteria for inclusion of the cases except for availability and no reason to believe they are materially different from any other nonrandom sample, although this possibility can never be eliminated. Our sample consisted of U.S. offenders who committed homicides primarily during the 1990s, and the sample was not used in any other FBI-sponsored study. Identifying information regarding offenders, victims, and police agencies was removed. Because this research involved only the collection of data from existing documents, the Institutional Review Boards of both the FBI and the John Jay College of Criminal Justice exempted the project (Exempt Category: 4 under 45 CFR 46) after an initial assessment, with no Institutional Review Board approval required.

Subjects

Offenders

Sexual homicide was operationally defined by using the criteria of Ressler, *et al.*¹²: evidence of victim's attire or lack of attire, exposure of victim's sexual parts, sexual positioning of victim's body, object insertion, sexual penetration, or evidence of substitute sexual activity, interest, or sadistic fantasy. Cases that were questionable with respect to the sexual motivation of the homicides were eliminated. All offenders had committed at least 2 (and as many as 11) sexually motivated murders and were classified as such by a review of the entire case in which total independent agreement by the authors was mandatory. The mean number of murders per offender was 4.2 (SD 2.6).

All of the 38 offenders in our sample were male; 25 (65.8%) were Caucasian, 12 (31.6%) were African American, and 1 (2.6%) was Asian. The mean age of the offenders was 34.7 years (SD 9.40; range, 20–58) at the time of arrest. There was no documented indication of psychopathology in 19 (50%) of the of-

fenders in the sample. In the other half, several disorders were noted: substance abuse ($n = 4$), antisocial personality disorder ($n = 5$), a psychotic condition (unspecified psychotic disorder and schizophrenia) ($n = 2$), a history of conduct disorder ($n = 3$), anxiety disorder ($n = 2$), cyclothymic disorder ($n = 1$), schizoid personality disorder ($n = 1$), and mild mental retardation ($n = 1$).

Information regarding criminal history, which almost always underestimates the number of offenses committed, was available for 30 (78.9%) of the total sample. Eight (21.1%) offenders had no documented criminal background before the homicides. The 30 offenders who had committed prior crimes were responsible for 180 separate criminal incidents (which involved a total of 254 offenses) that were not connected to the homicide series. There was a mean of six incidents (range, 0–20) per offender. Most of the nonhomicidal offenses were of a violent nature, including attempted murder and various types of assault (22.8%), sexual assault (20.1%), burglary (8.7%), and a variety of other crimes, such as theft and weapons and drug offenses.

Victims

There were 162 homicide victims, the majority of whom were female (77.2%, $n = 125$; 22.8%, $n = 37$ male). Most victims (70.1%, $n = 115$) were Caucasian or African American (26.5%, $n = 43$); 2 percent were classified as other (three Hispanic, one Korean). The mean age of the adult victims was 26.1 years (SD 0.70). (Fifteen victims who were 14 or younger were not used in calculating the mean age of victims, to prevent skewing the results.)

Most of the homicides (58%) in our sample were committed by Caucasian offenders against Caucasian victims, and the great majority (83%) of offenders targeted victims of the same race. Only five (13.2%) offenders exclusively targeted victims of a different race. The specific racial composition of offender and victim was as follows: the 25 Caucasian offenders killed 94 Caucasians, 4 African Americans, and 4 other; the 12 African-American offenders killed 39 African Americans and 18 Caucasians; and the Asian offender killed 3 Caucasians.

Operational Definitions of Ritual and Signature

Ritual

Ritual was operationally defined as crime scene acts by the offender that were unnecessary for the

perpetration of the homicide, involved activity that exceeded that which could cause death, and occurred with at least two victims. Examples include body posing, foreign object insertions, torture, or overkill that occurred with two or more victims in a series. Those offender activities that were considered M.O. (i.e., actions engaged in to perpetrate the offense, complete the crime, abduct the victim, or elude detection) were excluded, except in those cases in which there was an overlap between ritual and M.O., such as fire-setting, body dismemberment, and binding.

Signature

Signature was operationally defined as a ritualistic act that was distinct or unique behavior, not seen at any other crime scene in our sample (e.g., eye enucleation); a ritualistic act that was a unique or distinctive way to carry out a familiar act (e.g., posing victims, but with legs spread and propped up on pillows); or a combination of acts that, when taken together, were distinctive and unique (e.g., inserting vegetables into victims and photographing them). Accordingly, signature can be considered a subset of ritual. Absolute independent agreement by the authors was necessary for classification of both ritual and signature.

Results

Do Serial Sexual Homicide Perpetrators Engage in Ritualistic Behavior?

Thirty-seven (97.4%) of 38 offenders engaged in ritualistic behavior with at least two victims in their homicide series. Of the 162 homicides studied, 147 (90.7%) involved ritualistic acts. Of the 37 offenders who engaged in some type of ritualistic behavior, 33 (89.2%) did so with all their victims. Of the four offenders who did not engage in ritualistic behavior at every crime scene, one engaged in ritualistic behavior with 29 percent of his victims, one with 40 percent, one with 60 percent, and one with 80 percent. Table 1 lists ritualistic behaviors and their frequencies.

All 37 offenders who engaged in ritualistic behavior displayed at least one of the behaviors listed in Table 1. Twenty-six (70.3%) offenders also engaged in at least one of the uncommon, atypical behaviors listed in Table 2. In other words, if an offender engaged in a ritualistic act listed in Table 1, he was also likely to have engaged in uncommon rituals. Accordingly, it would not be unusual for a typical ritual

Table 1 Ritualistic Behaviors and Their Frequencies

Ritualistic Behavior	n*	%†
Penis penetration	20	39.2
Binding	18	31.6
Overkill	17	25.3
Beating	11	21.5
Posing	13	17.7
Mutilation	10	13.3
Trophies and souvenirs	6	12.0
Photographs and documentation	4	11.4
Dismemberment	5	9.5
Foreign object insertion	9	8.9
Torture	4	7.6
Biting	4	7.0
Gagging	7	6.3
Necrophilia	3	1.9

*The number of offenders in the sample who exhibited this behavior at a crime scene. n = 37 offenders who exhibited ritualistic behavior.

†The percentage of the ritualistic behavior across the sample of offenses or victims. n = 158 victims of those offenders who exhibited ritualistic behavior.

(such as binding) to co-occur with very uncommon behavior (such as forced bestiality, forced cannibalism, or shaving the victim’s public hair).

Is the Ritual Consistent With Each Victim in a Series?

Of the 37 offenders who engaged in ritualistic behavior, only 5 (13.5%) used exactly the same ritual with every victim in the series. However, 31 (83.8%) of the 37 offenders engaged in rituals that were behaviorally similar with at least two victims. For example, one offender sexually molested four victims before death and three victims after death; another engaged in both pre- and postmortem mutilation; another inflicted blunt-force trauma, bound victims, flagellated victims’ buttocks, cut one victim’s breasts, and mutilated another’s legs. These behaviors are similar, but not identical.

For the 31 offenders who did not engage in exactly the same ritualistic behavior across victims but who engaged in similar behavior, the proportion of victims with whom they engaged in similar rituals ranged from 40 to 80 percent. Fourteen (37.8%) of the 37 offenders engaged in similar or identical rituals with only two victims, whereas five (13.5%) offenders engaged in similar or identical ritualistic behavior with five or more victims. Every offender engaged in more than one type of ritualistic behavior. For example, we reviewed no case in which an offender engaged in overkill with only one victim without also engaging in another type of ritualistic act.

Table 2 Examples of Uncommon and Atypical Rituals

Shocking or electrocuting victim
Holding multiple victims in extended captivity
Evisceration
Undressing and redressing victim
Shaving victim's pubic hair
Eating food at victim's home
Removing victim's eyes
Forcing captive victims to cannibalize prior victims
Carving a starburst pattern on victim's chest
Stacking victim's clothing in a neat pile next to the body
Forcing victim to pose in prior victim's underwear
Forced bestiality with offender's dog
Cutting victim's pants off in a distinctive way

Thus, offenders engaged in several different types of ritualistic behavior across a series of victims rather than engaging in only one ritual.

Is the Theme of the Ritual Consistent Across Victims?

Specific behavior at a crime scene is influenced by multiple external and situational factors.³⁰ Accordingly, Canter and Youngs³⁷ have suggested that a behavioral theme is a more valid basis for understanding crime scene activity than are specific (or even similar) individual actions. However, there are also problems with using themes. For example, a theme may be too broad or too inclusive, so that almost any behavior can fall within its boundaries, and there may be some degree of overlap among various themes as well. Moreover, the labeling of themes can be overly dependent on judgment and perhaps unreliable, particularly if the offender's own explanation of his conduct is considered. Notwithstanding these potential problems, we studied themes involving a combination of crime scene behaviors as well as consideration of the offender's own account.

Four predominant behavioral themes (i.e., a general topic rather than a signature, which refers to specific acts) were identified (Table 3) and operationally defined: power, control, and domination include behavior that allows the offender to exercise unlimited control over victims (e.g., commanding them to engage in specific acts); rage and revenge involves excessive violence and beating (e.g., overkill, such as 150 stab wounds); degradation and humiliation are the infliction of extreme humiliation and shame during the process of killing (e.g., forced bestiality); and sexual fixation includes behavior that

demonstrates some type of sexual preoccupation or obsession (e.g., engaging in specific pre- and post-mortem sexual acts or collecting specific items from victims such as underwear or genitals). When a dominant behavioral theme was identified, 31 (83.8%) offenders had engaged in similarly themed rituals. Six (16.2%) displayed two different themes during their series, and no offender displayed more than two.

Is There Evolution or Elaboration of the Ritual?

Seventeen (45.9%) of the 37 offenders who engaged in ritualistic behavior evidenced evolution or elaboration of their rituals across victims. For example, several offenders engaged in more elaborate torture with subsequent victims; one offender began with postmortem genital mutilation and progressed to dismemberment; another offender's ritual evolved from eye-puncturing with the first victim to enucleation of eyes in victims two and three; one offender cut his early victims and progressed to decapitation and then evisceration of later victims. The evolution of offenders' rituals is presented in Table 4.

Is the Ritual Not Only Consistent, but Also Unique, so That It Can Be Legitimately Referred to as Signature?

Uniqueness

Using our operational definition, unique behavior was found with as few as one and as many as six victims in a series. Seventeen (17/38; 44.7%) offenders engaged in exactly the same unique behavior (signature) with at least two victims. The mean number of victims and scenes where consistent behavior unique to the perpetrator was found was 2.7 (i.e., of the 17 offenders who engaged in unique behavior, they did so in an average of 2.7 incidents).

Table 3 Themes Displayed by Offenders

Theme	<i>n</i> *	%†
Power, control, and domination	12	32.4
Rage and revenge	10	27.0
Degradation and humiliation	6	16.2
Sexual fixation	3	8.1
Two themes	6	16.2

n = 37.

*The number of offenders who exhibited themes in their ritualistic behavior.

†The frequency of themes across the sample of offenders who engaged in ritualistic behavior.

Table 4 Evolution of Offenders' Ritualistic Behavior

Ritualistic Behavior	n*	%†
Evolving torture rituals	4	10.8
Evolving postmortem mutilation	4	10.8
Increasingly distinctive mementos	3	8.1
Incorporation of mementos from previous victims	1	2.7
Evolving gagging rituals	1	2.7
Incorporation of prior victim in subsequent homicide	1	2.7
From hidden disposal of victim's remains to exhibiting victim remains	1	2.7
From sexually assaulting unconscious victim to necrophilia	1	2.7
From oral penis penetration of victim to inserting foreign objects	1	2.7
Total	17	45.9

*The number of offenders in the sample who exhibited evolution of ritualistic behavior.

†Proportion of offenders in sample who exhibited evolution of ritualistic behavior ($n = 37$).

Consistency

Of those 17 offenders who exhibited the same unique signature behavior with at least two and in some cases up to five victims, signature behavior was found in 18 percent to 100 percent of victims associated with a single offender. Thus, if an offender engaged in (recurrent) signature behavior, it was seen in at least 18 percent of his homicides.

Do Offenders Experiment at a Crime Scene and Do Something Unique With Only One Victim?

Twenty-six (70.3%) of 37 offenders displayed behavior during one homicide that met our criteria for uniqueness. In other words, these offenders experimented at a crime scene: they behaved with only one victim in a way that they had not behaved with any of their other victims. In two cases the offender experimented in very different ways with two victims in the series, and in one case the offender experimented in different ways with three of his victims. The location of the incident of offender experimentation in a series varied: 3 offenders experimented with the first victim, 11 offenders experimented with the last victim, and the remainder experimented with a victim in the middle of the series. The three offenders who experimented with the first victim in their series may have had prior victims who were not attributed to them. The types of experimentation typically involved some form of postmortem genital mutilation, dismemberment, or both that were not done for body-disposal purposes. Unfortunately, a close examination of our data did not answer the question of whether something about the victim or the circum-

stances led to the experimentation or whether the process was entirely internally fantasy-driven on the part of the offender.

Discussion

The dearth of scientific studies of serial sexual homicide^{13,14,38,39} is striking in comparison with the enormous interest this topic has received in film, print, and television media. In fact, the curiosity of the lay public has been so intense that many notorious serial sexual murderers, such as Jack the Ripper,⁴⁰ the Boston Strangler,⁴¹ Ted Bundy,⁴² and the BTK Strangler,⁴³ have become household names. Frequently, the offender's supposed calling card left at every crime scene, such as placement of a moth in the mouth of victims as depicted in Thomas Harris'⁴⁴ *The Silence of the Lambs*, has become an intriguing part of every case. When news outlets cover such cases, many experts fill the airwaves with their explanations of the underlying meaning of various forms of ritualistic and signature behavior.

Our research suggests that the crime scene actions of serial sexual murderers are fairly complex and varied. Specifically, the notion that offenders leave unique signatures at every scene is not supported by the data. Although almost all the offenders in our sample engaged in some form of ritualistic behavior, they rarely engaged in exactly the same behavior at every murder. Most rituals were not identical, but they were behaviorally similar, thematically consistent, and, in about half the cases, they changed or evolved. In addition, well over half our sample engaged in both common and uncommon rituals or in several different types of rituals across a series of victims. The presence, nature, and complexity of ritual and signature in serial sexual murder is in striking contrast to the rarity of such conduct in nonsexual homicides.⁴⁵

Almost half our subjects experimented at one or sometimes more crime scenes in a series, behaving in a unique way. This type of crime scene behavior could easily lead an investigator or mental-health consultant who is inexperienced with serial sexual murder cases to conclude incorrectly that such different behavior indicates the work of another offender. In addition, all the rituals and signatures we studied seemed to have a strong underlying sexual basis. Other types of multiple murders (such as contract murder, spree killing, or terroristic homicides) may involve repetitive nonsexual markers, but these

murders are not fantasy-driven or sexually motivated and were therefore not the subject of our study. Accordingly, we are unable to draw any conclusions about behavioral markers that might appear in a series of nonsexual homicides.

A frequent question asked of consulting forensic psychiatrists, psychologists, and criminal investigators is whether a particular individual can be connected, or linked, to a series of murders based on behavioral (ritual or signature) evidence.³⁵ For such testimony to be admitted in court, it must meet the legal standards for the admissibility of scientific evidence in either the *Frye*⁴⁶ or the *Daubert*⁴⁷ test. Thus, the question for the court becomes whether linkage analysis is generally accepted in the scientific community (*Frye*) or whether it is not only generally accepted but reliable, valid, and based on empirical evidence with results published in peer-reviewed journals (*Daubert*). Since our study is one of the first empirical examinations of ritual and signature in serial sexual homicide, it is hard to argue that linking cases to a specific offender based on this type of behavioral analysis meets either of the legal tests or satisfies related court opinions.⁴⁸ Additional research with an expanded sample size, as well as the creation of a large database of rituals and signatures, would be important next steps in furthering our understanding of these crime scene activities and providing eventual possible scientific support for linkage analysis.⁴⁹

The accused's state of mind at the time of the crime is always an important forensic issue. Unfortunately, some forensic mental health professionals, having had limited experience with this rare type of criminal behavior, often incorrectly conclude that the offender must have been psychotic, since the ritualistic or signature behavior engaged in at the crime scenes appears bizarre and ostensibly pointless. Dietz *et al.*¹¹ have noted that "even seasoned clinicians . . . find themselves tempted to ascribe psychosis to those who engage in extraordinarily cruel acts despite the absence of delusions, hallucinations, or markedly illogical thinking" (Ref. 11, p 164). In fact, most serial sexual murderers are not psychotic^{6,10,13,50}; and, in those cases in which there is a psychotic process, the psychosis is almost always unrelated to the sadistic, ritualistic, or signature acts.^{18,31} In our study, only two offenders evidenced any type of psychosis, and in both cases, the offender's psychotic symptoms were not at all connected to any of their homicides or to their ritualistic or signature behaviors.

Beres noted that fantasy "may be a substitute for action or it may prepare the way for later action" (Ref. 51, p 328). Ritualistic and signature behavior in serial sexual murder certainly provides a unique opportunity to explore the complex relationship of fantasy and its role in motivating and guiding some extraordinary crime scene conduct. Although we are acutely aware of the limitations of our descriptive study, most notably, the generalizability of the results of a relatively small, nonrandom sample, we hope our research will help in achieving a better understanding of serial sexual murderers' crime scene behavior and offer a more solid foundation for addressing several of the forensic, legal, and investigative concerns that this topic raises.

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