

# INCIDENTS OF VIOLENCE DURING SLEEPWALKING: MEDICAL, LEGAL AND PHILOSOPHICAL APPROACH

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## ABSTRACT

Violent incidents occurring during confusional arousals, somnambulism and sleep terrors constitute a relatively rare phenomenon, but they pose interesting problems from a medical, legal, and philosophical point of view. The basic question of this paper is the responsibility of the individual who commits acts of violence while suffering from a sleep disorder. The paper includes a review of related cases from the international literature, an explanation of the legal context in Greece and abroad, and an exploration of the role which medical science has to assume in order to facilitate court decisions with regards to these cases. In the end, we adopt a more theoretical approach to the issue and we briefly discuss the notion of personal identity in relation to incidents of this kind.

## Introduction

Parasomnias consist of complex behaviors and motor activity which take place during night sleep, with arousal disorders occupying a prominent place among them. Arousal disorders can be classified into confusional arousals, somnambulism and sleep terrors, which share many common elements. Confusional arousals usually occur in cases of sleep deprivation, enhanced by alcohol or other substances abuse; sufferers appear disoriented, incoherent in their behavior, with typically slow and clumsy movements, but they can wander around, get dressed, or even exhibit complex motor activity. Somnambulism (sleepwalking) includes complex automatic behaviors such as

pointless wandering, dressing and undressing, movement of various objects, eating, urinating in unusual places and, rarely, driving. Sleepwalkers' eyes are usually open and staring, their speech is incomprehensible, their activities never seem purposeful or planned, and in rare cases they can become violent. Sleep terrors (or night terrors) become manifest with sudden arousals, shouting, increased autonomous nervous system activity (tachycardia, tachypnoea, mydriasis, increased perspiration), and, sometimes, agitation which can lead to self-injuries. If awakened, sufferers appear confused and incoherent, but they may return spontaneously to bed and lie down, with no recollection of the incident on the next day [1]. It needs to be noted that this inability of recollection is also present in cases of sleepwalking. Another diagnostic feature shared between sleep terrors and sleepwalking is the absence of physical disease, such as brain tumor or epilepsy [2].

The prevalence of sleepwalking and sleep terrors amongst adults is estimated at 2 – 4% and 1%, respectively [3]. To be sure, the accurate diagnosis and identification of sleep disorders entails many difficulties, especially if sufferers sleep on their own and be unaware of their problems, failing to ask for medical advice. In addition, the differential diagnosis of arousal disorders is very challenging, and so is their concrete observation. Therefore, notwithstanding their differentiation as presented above, we shall be referring to 'sleepwalkers' in what follows without clarifying whether they suffer from somnambulism, sleep terrors or confusional arousals. The term 'sleepwalker' is used repeatedly throughout this paper for simplicity reasons. It also needs to be noted that we cannot easily define as 'patient' an individual with no signs of physical disease, whose functionality and health in general remain intact. However, this does not mean that sleepwalking does not constitute an

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important problem; this becomes evident if we consider violent behaviors which sufferers may exhibit during incidents of sleepwalking, with possible infliction of harm to themselves or others. In such a case there can be significant psychological and legal consequences, thus it is easy to understand the importance of the role that experts (neurologists and psychiatrists in general, or sleep experts in particular) have to assume, either by preventing and treating the problem, or by offering their professional opinion in order to inform difficult court decisions.

This paper constitutes a review of violent behaviors during sleepwalking incidents that have been reported in the scientific literature, placing particular emphasis on the contribution of expert health professionals with regards to the assumption of diminished responsibility of individuals who act violently in lack of consciousness. The legal approach is often entirely different compared to the medical approach of these cases, which is only natural if one considers how insufficient our ways of understanding the functioning of consciousness still are, or even the concept of consciousness itself. With regards to this last remark, the issue shall be examined at a more theoretical level in the final part of this paper, where there shall be references to the philosophical approach of Derek Parfit to the problem of personal identity. This approach may seem at first too abstract to have any usefulness to the examination of automatic behaviors which take place during sleepwalking, but it certainly constitutes the starting point for many interesting and thought-provoking investigations.

### **Cases from the international literature**

Violent behavior during sleep can become manifest in various ways, but the most known cases refer to incidents which entail direct legal consequences – that is, manslaughter or attempted manslaughter, as well as sexual assault. As it is probably anticipated, cases of this kind are rare. Ohayon has counted 140 cases appearing in the international literature from 1900 to 2000 [4], but there are also some older, as well as some more recent references. Incidents with greater amount of violence naturally draw greater attention due to the gravity of their legal consequences, whereas

the mystery that surrounds them and their overall peculiarity may attract bigger interested audiences, apart from members of the scientific community. Thus, there are historical references to similar cases (for example, about a mother in the 19th century England who threw her baby out of the window while dreaming that their house was on fire) [5], as well as literary works that describe criminal acts taking place during sleep [6], but without any attempt to classify or deal scientifically with these incidents.

The first case appearing in a scientific journal comes from a young man in Scotland; in 1878 he killed in his sleep his infant son, thinking that he was fighting with a monster that threatened his family [7]. This incident is related to sleep terror followed by sleepwalking and similar cases include, amongst others, a man who shot his parents and his brother while dreaming that there were burglars in their house [8], and a man who killed his daughter with an axe, in trying to protect her from soldiers who were attacking her in his dream [9]. Even though it is not safe to draw clear lines, there are also cases in which the violent act is more related to confusional arousals than sleepwalking, such as the case of a man who was awakened by a sound in the middle of the night and, armed with an axe, attacked the ‘stranger who had entered his room’, who turned out to be his wife [10]. A third category of incidents refers only to sleepwalking without any signs of sleep terror – that is, no sign of a frightening dream guiding the actions of the sleepwalker; for instance, a man got out of his bed and drove his car to his wife’s parents’ house, where he killed his mother-in-law and wounded his father-in-law by attacking them with a knife [11]. In a more recent case, a man from Arizona stabbed his wife 44 times and then he dragged her to the swimming pool of their house (it is thought she was still alive), where he drowned her by holding her head under the water; he then returned quietly to his bed [12]. The aforementioned cases are indicative, and there is no need to carry on citing all similar cases found in literature; to be sure, each one of them is unique and they all present great interest to those who wish to explore them in greater depth.

As stated above, these cases draw greater attention due to the increased level of violence

involved. Nevertheless, less violent incidences can also be mentioned as the problem is the same in essence – only with less serious consequences. For example, *sexsomnia* is a relatively new term used to describe parasomnias related to sexual behaviour, and may refer to masturbation, use of obscene vocabulary, sexual assault, and intercourse which can be harming to the sufferer's partner, who bears the responsibility to report the incident, as the sufferer is not able to recall his or her actions [13]. It is less common to report simple attempts to induce harm during an incident of sleepwalking, precisely because the consequences of this violent behaviour are not as impressive and they do not entail legal penalties, as opposed to a murder or a sexual assault. It was recently that a case in Brazil became known, where a sleepwalking woman attacked another woman (with whom they had a good relationship) and tried to strangle her with a sheet without success, but the reason why this incident became public is that it took place inside a hospital; those two women were escorting their children at the paediatric clinic. The physicians who were present attributed her sleepwalking and violent behaviour to prolonged sleep deprivation due to her child's condition, and they considered the incident of sufficient interest in order to describe it in an article of theirs [14]. If this attempt had taken place outside the hospital, it would be very difficult to be part of the international literature. Another similar case is the one of a woman in the US who took zolpidem before bedtime and woke up with an axe at her bedside, without knowing how it got there; when she checked her mobile phone, she found out many messages she had texted to her boyfriend during the night, of which she had no recollection at all. In these messages, she mentioned worrying sounds coming from the kitchen, and that was what forced her to take an axe from her garden and put it at her beside, in order to feel safer [15]. As there was no violent behaviour, it is possible that neither this incident would have found a place in the scientific literature, except that there is an ongoing research exploring the role of zolpidem in complex sleep disorders. Finally, in order to consider the factor of violent behaviour which inflicts self-harm, it is useful to mention the opinion of Mahowald et al., who believe that certain incidents that fall under the category of suicidal death are nothing more than the unfortunate consequences

of complex sleep behaviours; [16] however, this scenario cannot be sufficiently supported by hard evidence, and, as a result, these 'suicides' do not constitute part of the sleepwalking literature.

To sum up, incidents of violent behaviour during sleep are not often reported in scientific journals, as their interest is proportionate to the amount of violence they include or the context in which they take place. Therefore, it may be possible to represent an underestimated problem, despite their undoubted rarity. In a recent telephone survey in a sample of 19,961 individuals from six European countries, Ohayon and Schenck estimate that a percentage of 1.7% of the total population have displayed at least one episode of violent behaviour during their sleep, with a 24.6% of this percentage stating that they have inflicted harm to themselves or others [17]. Despite the limitations that a survey of this kind entails, these findings are certainly important and they attribute a special meaning to this review and, in general, to the quest for an additional theoretical approach with regards to the problem of individuals who commit violent acts during their sleep.

### **Legal and medical approaches**

Before everything else, it is important to note that we knowingly choose to refer to these individuals not as 'patients' but as 'sufferers'. Parasomnias and sleepwalking in particular are neurological or psychiatric disorders, which can become manifest as rarely as only once in a lifetime. Thus they do not constitute diseases in the strict sense, and the hasty assumption that the sufferers are patients would prejudice to a large degree the way in which their violent acts are examined. Bearing this in mind, another important element that needs to be pointed out is that there exists great disagreement with regards to both the legal and the medical approach of these cases. Obviously, each case needs to be examined separately, and, should it end up in the court of law, sleep experts are asked to offer their opinion as to whether sufferers should be found guilty, which calls for careful exploration of the case and close collaboration between medical and legal professionals [18]. However, as one can easily guess, the rarity of these cases, the lack of knowledge with regards to parasomnias and the absence of a widely accepted instrument

to facilitate their diagnosis [19] are all factors which result in a quite big variety of opinions when dealing with sufferers of this kind. A recent article indicates that there are many misconceptions in the study of sleepwalking, and that certain diagnostic criteria that are widely used are not consistent with the newest scientific evidence [20]. It is therefore useful to attempt a brief description of certain landmark opinions that have appeared at times.

Historically, the answer as to whether a sleepwalker can be found guilty of his behavior has been negative. The oldest known law was issued in 1313 by the Council of Vienna, and it stated that children, mentally ill individuals and sleepwalkers must be judged innocent in case they harm or kill somebody [21]. Despite the progress which medical science has to exhibit in the understanding of mental illness throughout the years, the notion that sleepwalkers should not be punished has remained in place. With the aid of sleep experts, lawyers can employ the 'automatism' criminal defence, that is, the concept that the accused commits a crime automatically, involuntarily and unconsciously; in other words, they accept the objective element of the crime (*actus reus*), yet they attempt to deny its subjective element, what is known as 'guilty conscience' (*mens rea*). Naturally, when it comes to such cases, judges rely much more on the experts' authority than on objective and clear evidence on sleepwalking and lack of consciousness. Modern research aided by advanced technology may be able to lead to more objective decisions in the future [22], but, for the time being, a largely interpretive – up to a certain point – approach of these phenomena is considered more valid. It needs to be noted that, to the best of our knowledge, there has not yet been reported a criminal case related to sleepwalking in Greece. However, Article 34 of the Penal Code states that 'the action is not attributed to the person who committed it if, at that time, due to mental functioning disturbance or disorder of consciousness, the person had no ability to understand the wrongfulness of the action, or to act in accordance to his true opinion with regards to the wrongfulness at hand.' Nevertheless, this provision is quite abstract; expressions such as 'mental functioning disturbance' and 'disorder of consciousness' are primarily legal terms, and in their vagueness they can cover a large series of psy-

chological and psychopathological conditions. Therefore, the elaboration of these terms falls under the scope of the science of psychiatry [23].

Certain experts are clearly against guilt for actions committed during sleep, on account of the sufferer's lack of consciousness, and they seek for the best way to confirm that the action was indeed committed during sleep [24]. Others claim that executive processes are more important to the law than consciousness, since they are responsible for channelling conscious decision-making into intentions and actions, or inhibiting action [25]. There are researchers who underline the importance of a completely novel approach of sleepwalking as a state of simultaneous interplay between states of sleep and wakefulness, in order to enhance our understanding and designate the true nature of violence during sleepwalking [26]. There are also experts who believe that parasomnias are definitely manifestations of psychological disorders [27], in disagreement with the view held in our article, i.e. that sufferers should not be treated necessarily as patients. This distinction is very significant, as the proof of automatism during a violent action can lead either to full acquittal of the defendant, or to commitment to a medical institution for an indefinite period of time, depending on whether the automatism is considered sane or insane [28]. It is therefore evident that there are many different opinions with regards to the issue at hand, both from a legal and from a medical point of view.

In practice, the factor of automatism is often accepted, and many court decisions are in favour of the defendants. This can be proved by the aforementioned cases from the international literature where there were trials for murder; the only final conviction was issued for the man from Arizona who had stabbed and drowned his wife [29]. This particular case holds special interest, as it is described in a 2004 article in detail by Rosalind Cartwright, the physician who was called upon to examine the defendant [30]. By comparing her case to a similar one, where the decision was acquitting, Cartwright seems to imply that she considers the conviction to be wrong; she points out many similarities between the two cases with regards to lack of motivation, complete failure to recall the incident, and unconscious automatic behaviours, and she ends up citing her proposals for the future investigation of such cases and for

the directions which related research has to follow.

There are many writers who point out that neurologists, psychiatrists and sleep experts have to be in a position to offer their assistance effectively in case they are called to assess such incidences in the court of law, but, in addition, they have to be able to contribute to the prevention of violence, by means of early diagnosis of the sufferers and proper treatment [31], as well as by informing the public – this is very important to ensure that milder incidents are reported in order to prevent more serious violence by proper interventions [32]. Other writers believe that pharmacological regimens and, in general, sleep disorders treatment have very limited therapeutic value for the time being, and that further research has to be employed in order to reverse this situation [33]. Current research projects include new pharmacological combinations to treat sleep disorders, the identification of factors which enhance the problems [34], deeper investigation of violent incidents in relation to REM and non-REM phases [35], neuroimaging techniques which aid to the correct diagnosis and differentiation of sleep disorders [36], as well as alternative interventions that can be used to prevent violent incidences, such isolation of the sufferer [37].

### **Philosophical approach: the problem of personal identity**

It seems that there are many issues which need to be explored scientifically if we hope to complete our knowledge about violent incidents occurring in sleep. The above presented literature review indicates that the legal approach of related cases entails many peculiarities, but it often ends in acquitting the sufferers, despite the fact that their criminal actions are beyond dispute. This assumption leaves many questions answered and it has not been supported adequately up to this point. Therefore, in what follows, and in order to make a contribution to this cause, we adopt a more abstract approach to the issue, based mainly on British philosopher Derek Parfit's views on personal identity. To be sure, our aim is not to present a complete philosophical approach to the problem of identity; this would require a systematic pursuit of many related issues, and an in depth analysis of many philosophical works. Our purpose is much

more humble, as we merely want to offer a different perspective which may be useful when contemplating about human conscience in general, as well as the problem of sleepwalking in particular.

In his largely influential work *Reasons and Persons*, Derek Parfit deals with the issue of personal identity from every possible aspect. By carefully analyzing a variety of hypothetical examples, he attempts to prove that personal identity does not constitute a factor which should play a very important role in our lives, and concludes that the reasons on which we base our decisions and actions have to become more impersonal [38]. All the theories which he uses toward this conclusion are interesting, but for our aim it is sufficient to mention what he calls the 'psychological criterion' of personal identity, and to explore how this criterion is associated with a person's memories. Before proceeding, it is useful to note that the deeper understanding of this influential philosopher's arguments obviously presupposes careful reading of his work, and not mere references to some of his ideas in the way we present them in this paper.

In our quest to find each individual's identity, we can note a kind of psychological continuity that resembles physical continuity. This psychological continuity has many aspects: for example, it can refer to a continuing belief or desire of an individual, which remains intact in a way that it becomes a stable psychological trait of this individual; or it can appear as a bridge between the intention of an individual and the later act in which this intention is carried out. But what has been most discussed is the continuity of memory. This is because it is memory that makes most of us aware of our own continued existence over time. Therefore, it is only natural that Parfit focuses on this element, as other thinkers have done before him. One of the most prominent amongst them is John Locke; in his work *An Essay Concerning Human Understanding* he proposes that experience memories (as opposed to other kinds of memories, such as those that refer to abilities) provide the criterion of personal identity. Thus, he maintains that the limits of our personal identity are to be set at the moments of the past we are able to recollect, and he claims that someone cannot be found guilty of committing a crime unless

he now remembers doing so [39].

As we have already discussed, two main features of sleepwalking and arousal disorders in general are the automation of acts and the inability to recollect them. Parfit links amnesia with two kinds of malfunctioning in the psychological identity of an individual: first, absence of a strong psychological connectedness (that is, when a big period of time has passed and memories have faded away) [40], and, second, existence of a gap within psychological continuity. This second kind of malfunctioning, the gap, is what interests us mostly in the case of sleepwalking. The gap within psychological continuity means that the acts or the crimes that are committed during an incident of sleepwalking are absent from the sufferers' memories. As a result, the defendant can claim that he was absent from the crime scene; the gap within psychological continuity indicates that another person, or another self of the same person, albeit temporary, emerged, committed the crime, and vanished.

Does this line of thought constitute an oversimplification of such a complex issue? It may appear so, but, in essence, this is where the defendants' acquittals are based on. From certain points of view it may seem just or unjust, but it may also mean that the instinctive way in which we deal with personal identity is not sufficient. Memories, beliefs, intentions, a person's character and all the other traits which form the psychological criterion are constantly in a state of flux, a dynamic process from which there can be no groundwork to define personal identity. Under this light, it may be that the case of sleepwalking is nothing more than an impressive manifestation of an imbalance or malfunctioning in this dynamic process. Perhaps all people suffer from gaps within psychological continuity in their personalities, but most of these gaps do not become as manifest as the case of sleepwalking, especially when a violent incident comes as a result. It may also mean that, according to Parfit's view, personal identity should not play such an important role in general. However, an analysis of this view far exceeds the scope of this paper. Suffice to say that, based on current data, the notion of personal identity is by and large formed by memories; as a result, the responsibility of an individual, his rights and obligations are directly related to his memory. A different approach

would require a radical change of the way in which we deal with what is called 'personality' of each individual.

## Conclusion

Sleepwalkers, or, to put it more accurately, sufferers from confusional arousals, somnambulism, and sleep terrors exhibit obvious gaps within the psychological continuity criterion of their personal identity. The main reason is that they fail to link the acts they commit in their sleep to themselves, as the corresponding memories (and probably the intentions as well) are absent from their conscious, cognitive functioning. If these acts are related to incidents of violence, a court of law shall have to decide whether the defendant's amnesia is real, and, if so, whether it is a pathological condition in need of treatment. These decisions cannot be taken without the aid of medical authorities, as science at this moment cannot offer any objective criteria that establish amnesia, even though there is active related research toward this direction. It is also important to take into account the context in which acts of violence have been committed, in order to assess possible intentions the defendant might have had.

This issue presents great interest in its medical, legal, and philosophical aspect. Its complexity and its inescapable subjective nature render it intrinsically problematic, while its rarity seems to have discouraged many experts from dealing with it. We hope that this paper can be used as a point of reference for all those who would like to explore the issue in greater depth.

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