Commentary: A Response to Wortzel and Arciniegas About Amnesia and Crime

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The review by Wortzel and Arciniegas of the phenomenology and neuroanatomy of memory is a welcome complement to our psychiatric clinical perspective on the concept of amnesia in relation to crime. The authors raise their concerns in noting that certain concepts referred to in the literature are inconsistent with the phenomenology and neurobiology of memory. In response, we clarify the DSM-IV-TR nomenclature and provide information on current research exploring various mechanisms outlining memory impairment and other neurocognitive deficits in schizophrenia and other psychoses. In relation to amnesia and crime, the practice of forensic psychiatry requires the expert to be able to consider the validity of amnesia claims in criminal proceedings, translate scientific knowledge into a language accessible to the court, and provide an opinion. As such, a psychiatric clinical approach to the concept of amnesia in relation to crime provides a useful framework.

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We have read the response from Wortzel and Arciniegas[1] with great interest. They provide us with a succinct and coherent review of the phenomenology and neurobiology of memory, supported by a list of valuable references. While they acknowledge that the field of neuroscience is developing rapidly, they synthesize current knowledge in a way that is understandable to the reader with a medical background. As such, the contribution by Wortzel and Arciniegas is a welcome complement to our paper, "Amnesia and Crime,"[2] particularly with regard to their excellent review of the phenomenology and neuroanatomy of memory.

In contrast, our paper reflects an effort to represent different perspectives on the concept of amnesia in relation to crime and to present literature relevant to these various currents.[2] We have chosen to approach the subject from a psychiatric clinical perspective, to provide a workable framework within which claims of amnesia in a forensic context can be best understood.

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As Wortzel and Arciniegas point out, amnesia is a broad term that merely refers to an impairment in memory and does not distinguish the specific mechanism by which memory is impaired. Accordingly, they suggest that the use of the term "amnesia" is generally discouraged in favor of more specific descriptions of the memory impairment. In our review, we found that the term amnesia is used extensively in the literature. The *American Heritage Dictionary* defines amnesia as a "partial or total loss of memory, usually resulting from shock, psychological disturbance, brain injury, or illness."[3] Wortzel and Arciniegas state that the use of the term dissociative amnesia in reference to stress or trauma-related memory disturbances is inconsistent with the phenomenology and neurobiology of memory and that the term psychogenic amnesia more accurately describes the phenomenon. However, the Diagnostic and Statistical Manual of Mental Disorders (Text Revision) (DSM-IV-TR) provides diagnostic criteria for dissociative amnesia as the term that has replaced psychogenic amnesia.[4] Further in their commentary, the authors raise concerns about the framing of organic versus functional amnesia. They explain that the DSM explicitly discourages the dichotomy. We are in agreement that the term

functional serves no useful purpose and that a biological substrate probably underlies most psychiatric illnesses. The DSM, however, makes a distinction in that it categorizes the amnestic disorders, in which the memory disturbance is a direct physiological consequence of a general medical condition or substance, under the umbrella of delirium, dementia, and amnestic and other cognitive disorders, all of which (except amnestic disorder not otherwise specified) may be associated with objective medical findings and/or etiology. It seems, therefore, based on its current classifications, that the DSM-IV-TR maintains a distinction based on the etiology of the memory disorder.

In their paper, Wortzel and Arciniegas[1] also provide us with an opportunity to clarify a possible ambiguity as it relates to psychosis and memory. In our paper, we point out that psychosis is associated with an increased prevalence of violent behavior. Several authors have commented on the fact that psychotic assailants often have no recall of their violent outbursts.[5,6] In our clinical practice, we have often observed that individuals who have recuperated from an acute psychotic episode have a poor or clouded recall of events that took place while they were thought-disorganized. In the past two decades or so, our understanding of the multidimensional nature of impairments in schizophrenia has developed greatly. We are far from the simplistic notion of using such positive symptoms as delusion and hallucination to support the diagnosis of schizophrenia or any other psychotic condition. Psychiatrists will readily appreciate the neurocognitive deficits associated with the illness, including the impairment of executive functions and the cognitive and perceptual disturbances.

In recent years, significant advances in the area of neuroscience and technological developments in neuroimaging have provided tools that allow researchers to explore new paradigms and propose theoretical models. A scholarly paper reviewing empirical evidence on memory impairment and schizophrenia showed that schizophrenia is associated with a significant impairment of episodic memory in relation to conscious recollection.[7] This impairment has been found to result from a failure of strategic processes at encoding. Lepage and his collaborators,[8] in examining episodic memory bias and symptoms of schizophrenia, reviewed evidence of a biasing effect on memory of the positive and negative symptoms of schizophrenia. They reviewed studies that support the conclusion that subjects with psychosis have a source memory deficit restricted to self-generated items and source misattributions. The authors observed that the data available do not provide an explanation for the source memory bias in subjects with psychosis. Bentall *et al.*[9] demonstrated that a group of subjects with persecutory delusions had lower memory performance in comparison with that of a healthy control group. Their study showed a memory bias toward threatening information. All these studies support the notion that positive symptoms such as active delusional thinking may contribute to attentional shortage or selective biases that affect the memory process. Predominant negative symptoms have also been associated with memory biases; however, conflicting results have been obtained in various studies.[8] In their review, Lepage *et al.*[8] identified a need for further exploration of memory biases in schizophrenia.

The practice of forensic psychiatry, in relation to crime and amnesia, not only requires the expert to be knowledgeable in the neurobiological aspects of memory but also to be able to translate scientific knowledge and technical language into a language accessible to the court. By integrating theoretical constructs and clinical observations and keeping abreast of current and future developments in the neurosciences, the forensic psychiatrist will be in a better position to consider the validity of amnesia claims in criminal (and civil) proceedings. In a nonforensic context, there remain puzzling cases in which it is not possible to ascribe the amnesia reported by the individual to a clear cause. In a forensic context, the expert faces an additional challenge, as he or she is expected to come up with an opinion. Amnesia and crime is an area in which the forensic psychiatric expert, despite extensive knowledge, must recognize the limitations of such knowledge and be humble.

References

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