

for casework or court preparation. Chapters 1 through 3 are devoted to neuroscience and neuroimaging basics. While nonreductionistic about mind-body relationships, the authors acknowledge the primacy of our understanding of functional neuroanatomy. This section clarifies limitations about structure-function relationships and individual differences in functional anatomy and articulates ongoing challenges in developing a more nuanced understanding of human brain function. Roskies gives a clear assessment of the limitations of imaging techniques, laying a foundation for appropriate skepticism when reading the functional imaging neuroscience literature. Complex ideas and data analysis are presented in a readable and lucid manner, providing a fresh understanding of how imaging and other techniques derive information on brain functioning. These early chapters are useful for all readers as a prelude to understanding the legal perspective on basic science.

Other contributions add to the book's value as a reference, with a thorough explanation of rules governing the admissibility of scientific evidence and a series of chapters later in the volume that detail implications of neuroscience in specific legal questions, including juvenile justice and criminal law. As a final commentary for the reader, Roskies and Morse look to the future of neuroscience and the law and review possible circumstances in which neuroscience may be used for criminal defenses. As they tie together threads from other chapters, they balance optimism and skepticism about applications to come.

The *Primer* serves equally well as an overview of neuroscience for the legal expert and a resource on pertinent law for the psychiatric or neuroscience expert witness. It occupies a niche between clinical neuropsychiatry<sup>2</sup> and applied neuroimaging.<sup>3</sup> Although, as the editors observe, applications of neuroscience are not yet widely accepted in legal proceedings, clinicians anticipating testimony in this area can use this book now.

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Disclosures of financial or other potential conflicts of interest: None.

## **Side Effects: Not Guilty by Reason of Insanity and Unethical Behavior**

Written by Scott Z. Burns. Directed by Steven Soderbergh. Produced by Scott Z. Burns, Lorenzo di Bonaventura, and Gregory Jacobs. An Endgame Entertainment, FilmNation Entertainment, and Di Bonaventura Pictures Production. Released in the United States February 8, 2013. 106 minutes.

In the opening scene of Steven Soderbergh's film, *Side Effects*, a blood trail is traced through a richly furnished room, leaving the viewer with questions typical of a whodunit thriller. What sets this film apart from others is that at the epicenter of the twists are abuses of psychiatry by both practitioner and patient.

The story is set in New York City, where the viewer is introduced to an affluent young couple, Martin and Emily Taylor (Channing Tatum and Rooney Mara, recently discussed in *The Girl with the Dragon Tattoo*<sup>1</sup>). The couple is reunited after Martin serves a several-year prison sentence for insider trading. Shortly thereafter, Emily, who has depression, unexpectedly makes an observed suicide attempt. She consults a psychiatrist, Dr. Jonathan Banks (Jude Law), who initially appears to be intelligent, competent, and caring. He prescribes an antidepressant as part of her treatment. When it appears that the antidepressant is not working, Banks requests the advice of Emily's former psychiatrist, Dr. Victoria Siebert (Catherine Zeta-Jones), regarding a pharmaceutical treatment. She recommends the fictional selective serotonin reuptake inhibitor (SSRI) Ablixa. Shortly thereafter, Emily begins to have episodes of somnambulism that are most likely caused by Ablixa, but she refuses to stop the medication because she finds it

beneficial. Rather, with the advice of Banks, she decides to attempt to treat the side effects.

The story then takes a ghastly turn, and we revisit the opening scene. Emily stabs her husband during a sleepwalking episode, in an apparent state of medication-induced automatism. Not only do the police question her psychiatrist in the immediate aftermath, but the prosecutor does as well. The prosecutor states to Banks, "Either she's a murderer, or she's the victim of her medical treatment, in which case you're the target of a big civil suit. Either way, someone gets punished, her or you." Furthermore, in a blatant dual-agency conflict, the prosecutor "would like to see [Banks] consulting with us on this one." Banks subsequently explains that he will be acting as an expert witness for the defense. Yet, this too presents the ethics problem of wearing two hats.

When Banks' wife asks him "Did the person do it? Are they guilty?" he replies: "In this case, those are two very different things." He is referring to the need not only for an *actus reus* but also for *mens rea*, and the difficulty of establishing *mens rea* when an act occurs during somnambulism. Emily's counsel encourages her to accept the plea of not guilty by reason of insanity (NGRI), reasonably stating that "an NGRI defense is only successful one percent of the time, and they are giving you that today." In the judge's chambers, the arrangement is stated, "The State agrees to an NGRI; we [prosecution pointing to the defense] make a side agreement about how long she is institutionalized before there is any hearing on her release." This apparent agreement is misleading, perpetuating the lay misunderstanding that length of institutionalization is determined at the time of the NGRI finding, rather than by examination of mental state nearer the release.

Emily is found NGRI and is subsequently criminally committed. Banks and his career suffer. The media harasses him. He is asked to leave his group practice and must step down as a pharmaceutical consultant. He retorts, "If she's not guilty, why am I?" Surprisingly then, Banks continues to treat Emily while she is a criminally committed inpatient. He begins to notice inconsistencies. After his marriage is destroyed by staged photos of him with the attractive Emily, he becomes determined to delve deeper into investigating Emily's past, her husband's murder, and her mental status than his psychiatric role would allow. The veracity of her story comes severely into question. It is discovered that Emily's recent depres-

sion was feigned and her suicide attempt was staged. She was in cahoots with her lover (and ex-psychiatrist) Dr. Victoria Siebert, and the two had planned a large-scale deceit that was supposed to end in a grand fortune for them at the expense of Banks and Ablixa's manufacturers.

### Medication

The use of psychotropic medications in the film is often treated flippantly and perpetuates stereotypes. Characters discuss the side effects of commonly prescribed branded medications. An unraveling Banks requests a stimulant prescription from a colleague, because he is "struggling to hold focus." This portrayal of a psychiatrist nonchalantly requesting a controlled substance for a disease that he does not have sends yet another misleading message. Banks, in an effort to provoke Emily, tells her how he may use different medications to treat her: "You know the people shuffling around like zombies with vacant eyes in the prison ward? They were on Thorazine." Banks also frankly threatens Emily at one point with electroconvulsive therapy (ECT) and says "there's no telling what it might do to a 'normal person.'" Although the script describes ECT as "remarkably effective for treating severe depression, [with] none of the side effects you get with pills," Banks maintains the sense from *One Flew Over the Cuckoo's Nest* of ECT as punitive and barbaric. As well, the forensic psychiatric unit staff has a very low threshold for giving emergency (PRN) medication, including in response to Emily's merely raising her voice.

Central to the film is the fictional drug Ablixa, which echoes the indications, mechanism of action, and side effects of SSRI antidepressants. One website promoting the film (<http://www.tryablixa.com/>) recreates a sober line of yes-or-no questions assessing for severe depression. An answer in the affirmative to a single screening question elicits a recommendation for Ablixa or a medication like Ablixa. Even more surprisingly, when one answers yes, to the question, "have you had thoughts of hurting yourself?", no advice to seek real help is given. Although apparently benign and humorous, this marketing ploy exposes a flippant attitude toward depression.

Portrayals of Big Pharma occur insidiously throughout the film. Banks and colleagues are taken to lunch by a pharmaceutical representative, and they discuss receiving gifts of expensive tickets, and Banks brags to his wife that he has been offered a large sum

of money for minimal research consulting work for a new drug. Not only is Siebert initially seen as a paid mouthpiece for Ablixa, but her advice shows fruitful Machiavellian prescribing practices. The depiction could lead the naive viewer to believe that this is how prescribing choices are made, rather than on the basis of the best interests of the patient. The film also highlights direct-to-consumer (DTC) advertising, while exaggerating the practitioner's response to the whim of patients' requests. Soon after a large subway billboard appears advertising Ablixa, Emily asks Banks directly for the medication. DTC advertising is allowed only in the United States and New Zealand.<sup>2</sup> DTC promotions have an influence on shifting prescribing practices, despite an absence of any proof of better treatment quality or expedited delivery of care.<sup>3</sup>

### Boundaries

Soderbergh's film inserts practicing psychiatrists into wildly inappropriate situations. Although real-world patient-therapist sex is relatively rare, it often occurs in Hollywood. Siebert not only has a sexual relationship with her patient Emily, but also has taught her lover-patient how to malingering symptoms, with the goal of persuading another psychiatrist to prescribe Ablixa, and then faking the deadly side effects to manipulate the drug's stock prices and those of its competitors. Emily and Siebert would reap a fortune and be permanently rid of Emily's husband. Yet, our *femmes fatales* are not the only ones perpetrating boundary violations.

Banks, despite being the dapper, multilingual doctor whom the audience roots for, demonstrates no qualms about crossing boundaries, lying, threatening a patient with an inappropriate medication, and faking psychological testing. In fact, the hero commits repeated fraud and violates a patient without a flinch. When Emily is in the forensic unit after her NGRI verdict, Banks tells her that he is injecting sodium amytal (truth serum), but gives her a placebo instead. He then unethically takes his concerns about Emily to the prosecutor, who then demonstrates that he is the one with scruples when he says, "You lied to a woman who is not guilty, about what you were putting in her arm."

This brings up Banks' questionable roles in Emily's trial. He was at one point requested by both the defense and the prosecution to be their expert. Ethically, he should not have been involved in the court

proceedings at all, except as a fact witness, highlighting the difference between Hollywood and the ethics dilemmas and red flags that the nature of his participation would have raised in the real world. Furthermore, he should never have even considered working for the prosecution, which would be putting him in the place of testifying against his patient. He does not take that position with the prosecution; rather, the scene preserves the hired-gun typology of forensic experts and mirrors some of the real-life criticisms made of forensic psychiatrists.<sup>4</sup>

### Forensic Topics

Would Banks be culpable for the homicide, had Emily not been malingering? Although he continued his patient on the medication that he knew caused her to somnambulate, Emily was aware of the risks and benefits, and she provided informed consent to start an adjuvant medication as opposed to stopping Ablixa. Such a consent may help protect a prescriber from a finding of malpractice; however, in Banks' case, the media attention damaged him professionally.

As is spotlighted in this clever film, somnambulism has been reported to be a possible, but rare, side effect of SSRIs.<sup>5,6</sup> Serotonin has been suggested not only as a factor in the mechanism of sleepwalking, but also as a link to potential violence.<sup>7</sup> However, far from being simplistic, in an insanity evaluation in which blame is focused on medication, multiple factors bear consideration, including timing of medications, appearance of symptoms and history, concomitant substance use, and collateral information.<sup>8</sup>

Similar to the plot of this film, in 1998, Wendell Williamson, a law student, shot and killed two individuals in Chapel Hill, and was found NGRI. He had stopped taking his medication, had not followed up according to his psychiatrist's instructions, and had perpetrated the shooting eight months after he last saw the psychiatrist. Williamson filed a malpractice lawsuit for failure to prevent the murders and was awarded half a million dollars in damages.<sup>9</sup> The judgment was eventually overturned on appeal, on the basis of lack of foreseeability<sup>9</sup>; however, such an outcome does not preclude similar suits.

### Conclusions

*Side Effects* does not break the Hollywood mold; the archetypal persecuted good guy prevails. Another question begs asking, however: is there actually a

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good guy in this film? The picture painted of the psychiatrists is one of unethical, manipulative, greedy, and abusive clinicians. Consciously or not, once part of popular culture, these depictions can become engrained in society's beliefs. For example, it has been said that no other film has damaged the public perception of psychiatry and ECT as greatly as *Cuckoo's Nest*. As we have described, *Side Effects* provides interesting topics for movie club discussions. However, for the lay audience, the film may send home a gross misrepresentation of psychiatrists' morality, ethics, and abilities.

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Disclosures of financial or other potential conflicts of interest: None.