

BOOKS *et al.*

## NEUROSCIENCE

## BRAAAAINS

By Steven C. Schlozman

When I was asked to review *Do Zombies Dream of Undead Sheep*, by neuroscientists Timothy Verstynen and Bradley Voytek, my opinions, admittedly, were not without bias. Having published my own zombie novel in 2011 (*I*), I think the shambling ghouls that George Romero introduced back in 1968 with *Night of the Living Dead* can serve as lovely, surprisingly accurate, and firmly tongue-in-cheek pedagogies displaying complicated principles of neurobiology.

Still, I can be objective. This new book is smart, informative, historically riveting, well

## Do Zombies Dream of Undead Sheep?

## A Neuroscientific View of the Zombie Brain

Timothy Verstynen and Bradley Voytek

Princeton University Press, 2014.

271 pp.



referenced, and, like all good zombie stories, wonderfully fun. While some may argue that this kind of book is not the proper purview of respected neuroscientists like Verstynen and Voytek, I'd argue fervently that it is the perfect mechanism through which anyone might, um, "consume" neuroscience.

Among the many phenomena covered (from the neural correlates of lumbering to the infamously insatiable appetite of the undead), let's examine one example from the book. To appreciate it, you must be familiar with this popular zombie trope: When someone turns into a zombie, she can see you, but she can't see the *you* that makes *you* unique. All she can see is lunch. How do Verstynen and Voytek deal with this neurobiological conundrum? By diagnosing the zombie in question with "acquired prosopagnosia," a real condition in which individuals cannot recognize familiar people



The reviewer is in the Department of Psychiatry at Massachusetts General Hospital at Harvard Medical School, Boston, MA 02114, USA. E-mail: sschlozman@mgh.harvard.edu

from their faces. They further localize her abnormality as a defect in the fusiform gyrus of the cerebral cortex. If you'll pardon the pun, that's pretty brainy stuff for a book about zombies.

Zombie discussions are by definition intertextual. Those who choose to write about zombies are aware that they are engaging in the outlandish and therefore openly admit their conceit even as they make clear their theses. The authors stay true to this fine tradition, and the results are delightful.

If you want a sophisticated primer of neuroscience, coupled with a Halloween spin, then there can be no other book. Just remember that zombies are not real—yet.

## REFERENCES AND NOTES

1. S. C. Schlozman, *The Zombie Autopsies: Secret Notebooks from the Apocalypse* (Hachette Book Group, New York, 2011).

10.1126/science.1261500

## SPORTS SCIENCE

## Advantage: Science

By Pamela J. Hines

The star pitcher hurls his fastball, only to watch it hit the dirt short of the plate. The pitch that worked for him on the smaller field of Little League baseball is useless on the bigger field of high school baseball. The coveted pitching spot is going to a different boy this year, one who never played baseball before but whose rotational strength and spring-loaded elbow bring just the right mix of biomechanics and endurance.

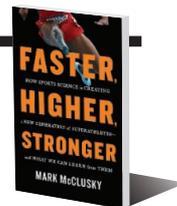
In *Faster, Higher, Stronger*, journalist Mark McClusky takes us into the world of athletics, looking at what differentiates winners from losers in elite competitions, from the Olympics to Formula One auto racing. The focus on extremes of excellence and performance at the margins of human capability makes a great read. The casual sportsman is not forgotten, as McClusky touches back on his own golf game to help weekend athletes relate. Marginal gains, trainability, and best fit run through the book, which is filled with engaging stories of athletes reaching the podium or missing by a hair.

The reviewer is on staff at Science magazine, AAAS, Washington, DC 20005, USA. E-mail: phines@aaas.org

Faster, Higher, Stronger  
How Sports Science Is  
Creating a New Generation of  
Superathletes—and What We  
Can Learn from Them

Mark McClusky

Hudson Street Press, 2014. 288 pp.



Throughout the book, McClusky shows us how seemingly inconsequential details can have surprising effects on athletic performance. In tennis, one more centimeter of height gives the server access to four more centimeters of the opposing court. The youngster who matures late but spent her youth competing against larger, stronger opponents gains skills useful on the adult playing field.

The variety of interacting factors that give an edge is eye-opening, including physical resources that the athlete brings and external resources brought by training and environment. Effective oxygen processing is crucial, but only some athletes can improve their abilities to process oxygen by training. Even the size of the town the athlete grew up in matters. If too small, the community doesn't have the infrastructure to support competitions; if too large, the system doesn't have the flexibility to allow athletes to find their way.

McClusky also discusses performance-enhancing drugs. Interestingly, the advantages accrued from legal and illegal enhancement can sometimes be the same—taking erythropoietin or training at a high altitude will both afford you more red blood cells, for example. Why is one practice grounds for disqualification, while the other is condoned? In a world where pharmaceutical enhancements are readily available and often difficult to detect, he encourages us to hold on to our sense of fair play.

There must be a good deal of resilience and persistence involved in bringing an individual athlete to the top—a topic the book could have explored in greater detail. How can those traits be trained or supported? How much room is there for marginal gains in the mental game?

Have athletes reached the limits of human performance? For some sports, that may be the case. With arm rotations up to 9000 degrees per second, pitchers may be reaching a biomechanical limit. For others participating in golf, tennis, and skiing, better clubs, slower balls, and new skis open up an edge for marginal gains. McClusky shows us how the right athlete competing in the right sport and informed by science will forge new records.

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