

Your brain on fiction: we simulate action we read in narrative | Boing Boing

Boing Boing (<https://boingboing.net/2009/01/29/your-brain-on-fictio.html>) · January 28, 2009

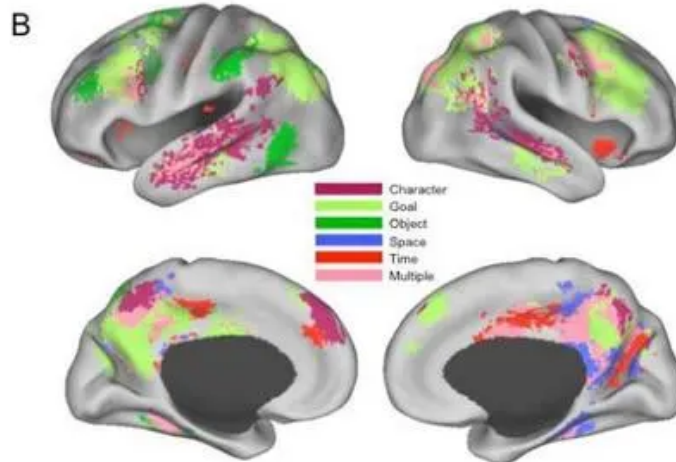
A forthcoming journal article in *Psychological Science* reports on the research of scientists from the Dynamic Cognition Laboratory at Washington University in St. Louis into what brain activity takes place while we read narrative stories. The study concludes that our brains simulate the action in the story, echoing it as we read.

I've always assumed that this was the case

(<http://www.locusmag.com/Features/2007/05/cory-doctorow-in-praise-of-fanfic.html>) — especially when it comes to character motivations. When I hear the voice of a loved one in my head, cheering me on or disapproving, I know that this is my mental simulation of that person. When a character does something in a story and I feel for him, it's the same kind of simulation. And when I try to *write* a character doing something "wrong," I know that this, too, is part of the simulation, and the resistance I feel there is the same as the resistance I'd feel if I tried to imagine my mother committing an ax-murder.

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Clause	Cause	Character	Goal	Object	Space	Time
...[Mrs. Birch] went through the front door into the kitchen.	•				•	
Mr. Birch came in	•	•			•	
and, after a friendly greeting,	•					•
chatted with her for a minute or so.	•					•
Mrs. Birch needed to awaken Raymond.		•				
Mrs. Birch stepped into Raymond's bedroom,				•	•	
pulled a light cord hanging from the center of the room,					•	
and turned to the bed.						
Mrs. Birch said with pleasant casualness, "Raymond, wake up."						
With a little more urgency in her voice she spoke again:						
Son, are you going to school today?						
Raymond didn't respond immediately.		•				•
He screwed up his face				•		
And whimpered a little.						



Nicole Speer, lead author of this study, says findings demonstrate that reading is by no means a passive exercise. Rather, readers mentally simulate each new situation encountered in a narrative. Details about actions and sensation are captured from the text and integrated with personal knowledge from past experiences. These data are then run through mental simulations using brain regions that closely mirror those involved when people perform, imagine, or observe similar real-world activities.

"These results suggest that readers use perceptual and motor representations in the process of comprehending narrated activity, and these representations are dynamically updated at points where relevant aspects of the situation are changing," says Speer, now a research associate with The Western Interstate Commission for Higher Education (WICHE) Mental Health Program in Boulder, Colo. "Readers understand a story by simulating the events in the story world and updating their simulation when features of that world change."

Readers build vivid mental simulations of narrative situations, brain scans suggest (<http://www.physorg.com/news152210728.html>)

(via *Futurismic* (<http://futurismic.com/>))