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THE MACHINE IS THE MESSAGE

WIRED

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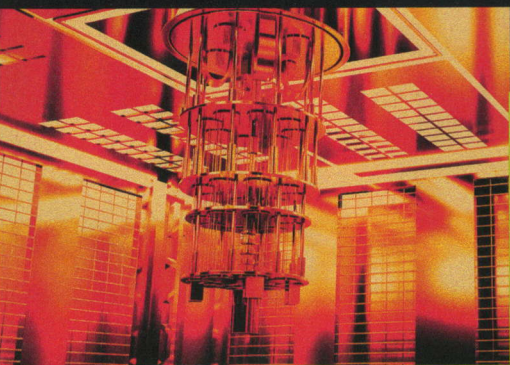
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THE MACHINE IS THE MESSAGE

STORIES FROM THE FRONTIERS OF COMPUTING

Tech companies don't care whether you know how their products work. In fact, they don't *want* you to know. The more you assume technology is conjured into existence by a priest class of techno-mystics whose powers dwarf your own, the more you allow yourself to be controlled by it (and them). Don't let this happen. Though they seem to get more brain-fryingly complicated every year, computers are not, ultimately, magical devices. They are physics plus engineering, and they're easy enough to break down. In this special issue—which we've arranged along a computer's famous "layers of abstraction," from the bitwise logic of circuits and gates up to the fancy products themselves—we go deep inside the modern machine, where incredible things are happening. Freaky-deaky things, yes, but grokkable just the same. So take the plunge. It's time to get computers, people—before computers get you. —THE EDITORS

OPER
SYST



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ALL HAIL THE GOD OF THERMO HARDWARE

↓ by Will Knight

ARCHITECTURES

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THE QUANTUM HOLIDAY TO END ALL HOLIDAYS

↓ by Amit Katwala

PHYSICS

GATES + CIRCUITS

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ANGELINA JOLIE WAS RIGHT: RISC CHANGED EVERYTHING

↑ by Jason Kehe

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SCHRÖDINGER'S COMPUTER

← by WIRED staff

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HOW MUCH DOES THE INTERNET WEIGH?

← by Samantha Spengler



1:2;2+0;-*1*-;2:2;
 2:2:2*1;17-;2:2;
 :-*0;0:2:2;1
 :-;2:2:2:2;2:2,2;
 2+2:2:1;2:2:1,2+1
 ,2:2:1,2:2;1

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 → by Steven Levy

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**THE IMPOSSIBLE
 QUEST TO
 SIMULATE A WORM**
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**ALGORITHMS +
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**GEAR THAT BOOSTS
 YOUR HUMANITY**
 ↑ by the WIRED Gear team

**PROGRAMMING
 LANGUAGES**

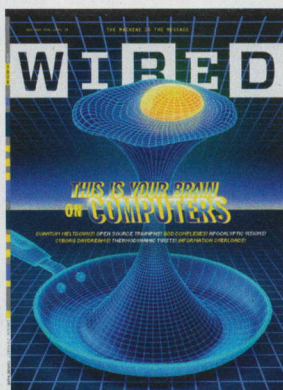
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**HOW CODERS
 REALLY USE AI**
 ↔ by WIRED staff

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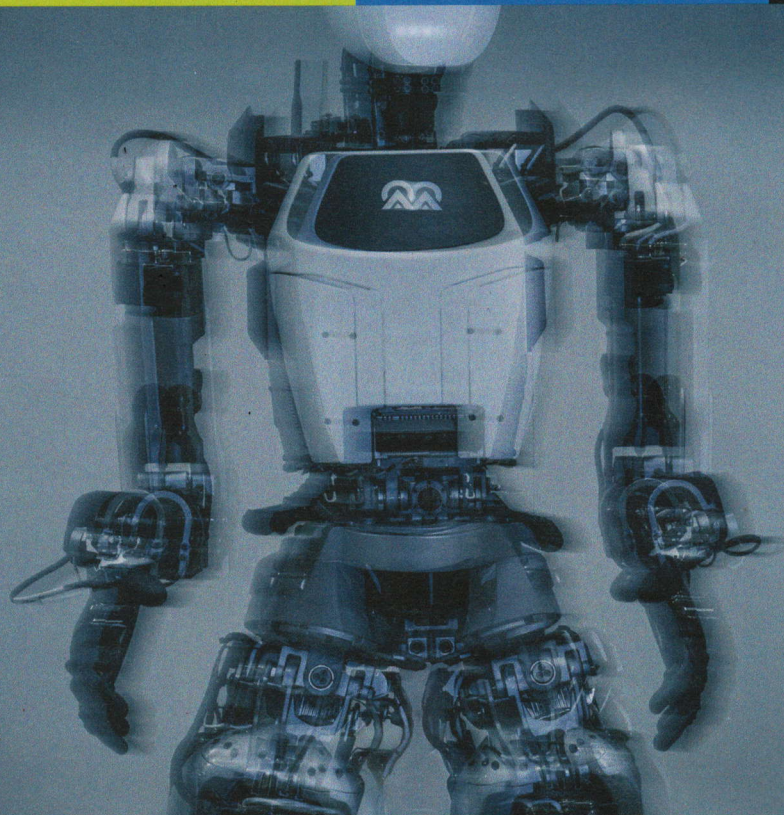
**ATING
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**PROGRAMMING
 AT THE END
 OF THE WORLD**
 ↔ by Tiffany Ng

ON THE COVER



Drugs fry your brain like an egg, remember? We had one of our favorite illustrators, **Alvaro Dominguez**, reimagine that iconic bit of '80s propaganda for the digital age. Are computers the new drugs? After you're done with this issue, tell us how your brain feels.



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**MAX IMPACT:
 THE WORST 7
 YEARS IN BOEING'S
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 by Lauren Smiley

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