

## ANALYSIS

[Hed] Written So You Can Understand It

[Dek] At 112 years old, *Popular Mechanics* has one of the longest legacies in magazines. Editor-in-chief Jim Meigs talks about what makes great science journalism.

By Darren Orf

The Hearst Tower, resting on the corner of 57<sup>th</sup> Street and 8th Avenue, looms above onlookers as a visual contradiction — an amalgamation of tan cast stone and cool blue glass. Joseph Urban designed, built and finished the cast stone base in 1928, but it would take almost 80 years to place the 46-story diagrid tower. This column of jagged glass now stands out against the Manhattan skyline and many consider it an architectural wonder, but really, the Hearst Tower exists as an 861,000-square-foot metaphor.

Print journalism is changing. Newspapers across the country blink out of existence as magazines shift toward a “digital first” philosophy and devote as much time to web content and tablet editions as the print product. Like cast stone and diagrid-designed glass, old and new media coexist with one providing the foundation of the other. Together, they form something new.

For three months, I worked alongside the *PM*'s writers and editors as they created the October 2013 issue. I interviewed 12 staff members and freelancers, hoping to catch a glimpse of how a magazine with 1.2 million subscribers and 9 million potential readers creates science journalism that's not dull, but accessible and entertaining.

## **Building Today's Magazine**

Within the stone and glass walls of 300 West 57th work some of the most influential people in the magazine industry. The building serves as the home of 20 titles with a combined editorial history of more than 1,500 years. Even among these editorial elites, few have a longer history than *Popular Mechanics*.

H. H. Windsor, who founded three now-defunct magazines in the late 1800s, published the first issue of *Popular Mechanics* on January 11, 1902. The publication's early tagline was "Written So You Can Understand It." Purchased by Hearst Corporation in 1958, the magazine now operates out of the 23rd floor of Hearst Tower.

In those early years, *Popular Mechanics* was one of the first consumer magazines to throw open the doors of engineering workshops and labs to disseminate scientific knowledge among its readership "The idea was we were talking about science among other things, but we're not talking to academia, we're not talking to the ivory tower, we're talking to smart guys who wanted to understand things," says James Meigs, current editor-in-chief of *Popular Mechanics*. He sits in front of his desk, one leg over the other. Light pours in from the west-facing wall of glass overlooking Lincoln Square and the slow-moving Hudson River. He's bespectacled with thinning hair and speaks with confidence — decades of it.

Meigs' credentials are not awash with science and technology affiliations. He's a magazine man, and he knows it. Part of the launch staff for *Entertainment Weekly* in 1990 and becoming editor-in-chief of *Premiere* from 1996 to 2000, Meigs

grabbed *PM*'s reins in 2004. For nine years he has crafted his own magazine while never wandering far from Windsor's motto.

He plays the role of the caretaker, the figurehead. He's the first to criticize, and the first to defend. If the editorial direction of *PM* is a waterfall, Meigs is its source, and during his nearly decade-long tenure, that current has changed course. "Men's magazines [are] like Swiss watches now," Meigs says, and for *PM* that creates an identity crisis. Because of the magazine's centenarian status, Meigs has refocused *PM* to be more youthful, colorful and current. The publication went through a reboot in late 2011, ditching glossy covers for a matte finish, and designer Michael Lawton redesigned the magazine's interiors. As *PM* pushes forward into this new direction, changes are yet to come — maybe even changing the name from *Popular Mechanics* to its commonly accepted shorthand, *PopMech* — but one thing is certain: It will be written so readers can understand it.

### **Exploring the Simple Side of Science**

The staff of *Popular Mechanics* faces an obstacle experienced by few other journalists — keeping the extremely complex simple. Not just complicated statistics or endless political quagmires, but explaining concepts like advancements in quantum mechanics, the awesome power of black holes or just how science can completely reimagine human life.

In the 1990s genetics and cloning were critical topic in bioethics, science journalism and a major juncture for the progression of humanity. Two journalism scholars, Niklas Pramling and Roger Säljö, detailed the importance of magazine

publications like *Popular Mechanics*. “Popular science magazines are central for the communication of scientific knowledge to the general public,” the authors wrote. “Writers need to transform scientific discourse into a form that is comprehensible and interesting to a non-specialist reader.”

Reporting science and technology can be a minefield of jargon; a wrong word or phrase sends a sentence careening into the wrong direction. So how do science journalists avoid these pitfalls? Meigs explains that you first have to understand the science community before you can even begin to cover it. “It’s part of the culture of science, to be deeply embarrassed by over interpreting your results,” he says. “Scientists are full of qualifications and limited statements with a lot of boundaries around them. Reporters want to be the opposite. They want the most dramatic statements.”

Freelance writer Jeff Wise, who wrote *PM*’s October cover story, “How Not to Die,” negotiates these boundaries with many science stories he has written in his 20-year career. “You’re a middleman between two very different people who will never understand each other: the layman and the scientist-specialist,” Wise says. “You’re like a bolt of lightning that’s trying to find the shortest route between the cloud and land.”

Between these two disparate audiences, writers and editors like Wise and Meigs all use a simple tactic to cut through complexity when it becomes overwhelming: Remember the reader. “This is where scientists see things really differently,” Wise says. “Scientists are more interested in pure knowledge like what can we solve about the riddle of the universe. The reader wants to know why do I

care?” Science journalists must add that “so what” element, whether the covering medicine or blue-sky research. As Meigs says a journalist must add the enthusiasm, and sometimes the skepticism, that scientists and engineers withhold.

To do this, it helps to create an audience. Meigs imagines a *PM* reader in detail, fleshing out its ghostly life. “The *Popular Mechanics* guy is in his pickup truck and headed to Home Depot, or he’s taking the boat out on the lake.” He describes him as a doer, someone who will read news and take action. In a disaster, he has the generator. If a car needs a jump, he has the jumper cables and the technical know-how. “We’re the lifestyle magazine who wants to be competent, who wants to understand technology and be competent in a high-tech world.”

### **Finding What’s Human**

*Popular Mechanics* is a different editorial animal than its competitors *Popular Science*, *Wired* or *Scientific American*. *PM*’s interests are broader, dipping into automotive, home, and adopting a do-it-yourself mentality. Without being as narrow-focused as other magazine’s, Meigs says it’s even more important to have engaging copy to ensnare otherwise uninterested readers. Writers and editors must find cultural common ground between a reader and scientist. The formula that works: Write with accuracy, find truth, and expose what is human.

Writers such as David Quammen, Michael Pollan and Sebastian Junger use literary techniques like metaphor to tell a science story, Some argue that when using metaphor, writers enter the field of persuasion, presenting a challenge to accuracy. Yet Wise mentions the usefulness of connecting iconic film images — the eerie quiet

of space in *2001: A Space Odyssey* or the humanoid, bipedal robots in *Star Wars* — to science description because film creates cultural understanding upon which more advanced discussions can be built.

But for Meigs, it's not just about simply referencing cinematic familiarity; the movie-magazine comparison goes into the very structure of the story. He developed this cinematic journalism technique working with William Goldman, screenwriter for *Princess Bride* and *Butch Cassidy and the Sundance Kid* and watching a documentarian edit a film. "Magazine articles are more like a movie," Meigs says. "You can only have so many scenes, each scene has to move the story forward aggressively. You have to be pretty ruthless about what you have room for and why it's in the story, and that's very much like screenwriting."

All the best science stories are inherently cinematic because they search for the humanity in science. Senior News Editor Joe Pappalardo wrote his first science story for *The Dallas Observer* 13 years ago. A simple press conference blossomed into a cover story about Russian scientists, formerly cold war researchers involved in a notorious chemical weapons project, who came to Dallas for biotech research. Pappalardo followed them for a day and depicted them more than just lab coats and pocket protectors. "You forget that scientists are actually people and they have arcs," Pappalardo says. "There are eureka moments that are fantastic to describe. There are contraptions and these bizarre arcane things. It's like a court wizard or something. There's almost infinite amounts of drama."

As a writer, Jeff Wise agrees that a story, at its most basic, needs humanity. "A good science story has a human element baked right into it," he says. "What we

want is a protagonist that is entertaining, that we can identify with, who's facing a challenge and has a narrative arc, and finds what they're looking for, or solves a problem."

But when searching for intriguing human elements in a story, a journalist must report accurately and search for some kind of truth, a theme that the story hangs on. Meigs references a former New York senator Daniel Patrick Moynihan who once said "everyone is entitled to their own opinion, but not their own facts." Facts are what lead journalists to truth, and in science journalism, accuracy can be daunting. "Very few of us are trained scientists and engineers, so for reporters it's really important to be humble about what you know and open about what you don't know," Meigs says, "Instead of explaining the science in a objective, white-paper form, you're meeting people who are leading you through it, who are explaining it to you and giving it a narrative kind of flow. The best thing magazine writers can do is look for that narrative flow, look for that story."

Meigs takes off his glasses and rubs his eyes. His office is now flooded with a late afternoon light. He looks out the glass building. If he were to peer down he'd see the building's cast stone base and the city's automotive arteries. He reminisces about receiving his first *Popular Mechanics* issue in eighth grade, a gift from his grandmother. "I still ask myself, 'Does this appeal to the 13-year-old kid who's curious,'" he says. "Are we hitting those stories?" After spending almost 30 years in magazines, Meigs is now an editor in the position to inspire millions of future scientists, engineers, mechanics, entrepreneurs and maybe even a few science journalists. The magazine isn't perfect, he says. He puts his glass back on. It will

never be perfect, but Meigs doesn't seem worried. "If I ever shipped an issue that I thought was perfect, then it's probably time to quit."