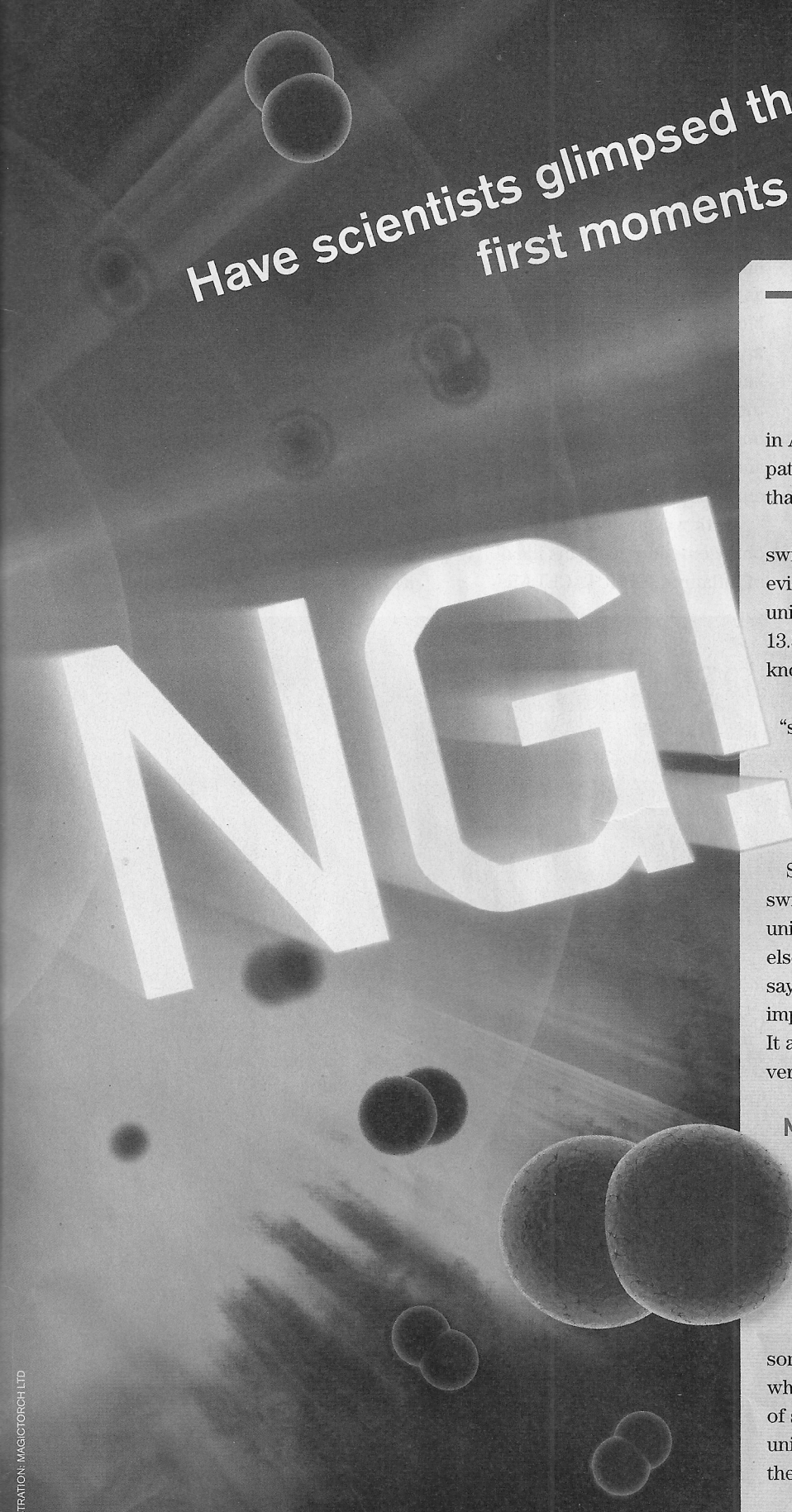
Have scientists glimpsed the first moments of the cosmos?



This past spring, a team of scientists made what seemed to be an earthshattering announcement. Their telescope at a remote outpost in Antarctica had detected a swirling pattern in the faint background light that glows throughout outer space.

Why all the fuss over some gentle swirls? They may be the first direct evidence of what happened to our universe during its violent birth 13.8 billion years ago—an event known as the *big bang*.

The signal the researchers saw "seems to have come from the earliest moments of the big bang," says Lawrence Krauss, a physicist at Arizona State University who wasn't involved in the discovery.

Scientists are debating whether the swirls are really from the birth of the universe or were caused by something else. If the result is confirmed, Krauss says, "this could be one of the most important observations of the century. It allows us to test our ideas about the very beginnings of the universe."

MYSTERIOUS ORIGINS

When astronomers peer out into the cosmos, they see that our universe is oddly uniform—it appears pretty much the same no matter which direction they look. That sameness poses a puzzling question: How could something so huge be the same everywhere? For example, how did regions of space that are literally across the universe from one another end up at the exact same temperature?

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