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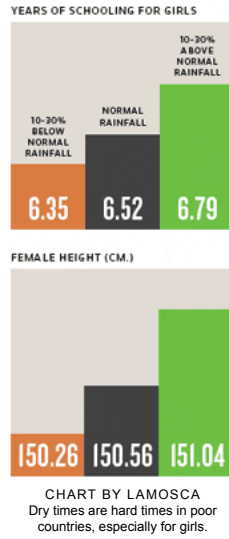
# THE 9TH ANNUAL YEAR IN IDEAS

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## Rainfall Theory of Development, The

 The amount of rain that fell during your first year of life has affected your education, your health and even how much money you can put your hands on — at least if you are a woman who grew up in the countryside in postwar Indonesia. In 2000, for example, rural women between the ages of 26 and 47 who were born in areas with 20 percent higher rainfall than normal the year after they were born were, on average, more than half a centimeter taller than their luckless (and drier) counterparts. These women also went to school for 0.22 grades longer and had more assets. That may not sound like a lot more education, but it means a year more of schooling for every five girls in those rain-enriched areas. And for



every five girls in an area with 20 percent less rainfall than usual, a year of school was lost, compared with women who were born into a year of average precipitation. Just as notable, the Indonesian men who were surveyed showed no rainfall effect either way. Sharon Maccini and Dean Yang, a married pair of economists who teach at the University of Michigan, published their mash-up of local rainfall data with life outcomes in June in *The American Economic Review*. They point out that "our finding of significant impacts for women and not for men is consistent with gender bias in the allocation of nutrition and other resources, particularly in times of unusual hardship."

Maccini and Yang also demonstrate that rainfall shocks that occurred when children were in utero had no long-term effect on adult men or women in Indonesia, suggesting that the nutritional bias began only when the sex of the child was revealed after birth. Less rice in this critical period can lead to worse health, followed by less schooling and, finally, fewer assets.

Economic growth and better irrigation have probably begun to diminish the rainfall effect in Indonesia, Yang says, but in other areas of the world like sub-Saharan Africa, where "income levels are still very low and people's ability to nourish their kids is almost certainly affected by rainfall fluctuations," it is most likely still going strong. AARON RETICA

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## Random Promotions

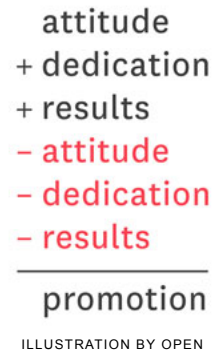
 In 1969, the Canadian psychologist Laurence J. Peter posited the "Peter Principle": people in a workplace are promoted until they reach their "level of incompetence." This happens, Peter argued, because we wrongly assume that people who are good at their jobs will also be good at jobs that are one rung up on the corporate ladder — so we promote them. But often the new job is so different from the previous job that the employee can't handle it. Now performing incompetently, the employee stays in place, dragging the efficiency of the firm downward. Eventually the entire economy becomes like the paper company Dunder Mifflin in "The Office" — clogged with incompetence.

Is there any way to avoid this trap? Yes, by promoting people at random. That's what a trio of Italian scientists discovered this year. They created a computer model of a 160-person corporation and programmed it with Peter Principle-like logic: the best performers were promoted, but they had only a random likelihood of being good at their new jobs. Sure enough, the firm was soon cluttered with incompetents, and its efficiency plunged. But then the researchers tried something different: they reprogrammed the firm so that it

promoted people entirely randomly, and the overall efficiency of the firm improved.

They also tried alternately promoting the absolute best and absolute worst performers. That, too, worked out better than promoting on merit. The scientists say these strategies work because they harness "Parrondo's Paradox," a piece of game theory in which you win by alternating between two losing strategies. "In physics or game theory, this isn't new," says Andrea Rapisarda, a physicist at the University of Catania in Italy and a co-author of the study, which was recently published in the journal *Physica A*.


As Rapisarda points out, if you could know for sure that the people being promoted would excel in their new jobs, that would be the best strategy of all. But if you aren't sure — and in the real world, we rarely are — then random works better. CLIVE THOMPSON



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## Resomation

 The cremation rate has been on a brisk rise in the United States, in part because cremation is cheaper than burial and saves land. But powering a crematorium requires an enormous amount of gas and

Resomation (a neologism meant to suggest rebirth) was first proposed for use in Europe as a method of disposing of cows infected by bovine spongiform encephalopathy. The corpse is placed in a pressurized chamber. The vessel is then filled with water and potassium hydroxide, creating a highly alkaline

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