## SCIENTIFIC PUBLICATIONS

## In Iran, a shady market for papers flourishes

New law would tame the practice of selling theses and research articles-if enforced

By Richard Stone, in Tehran

an you write me a thesis?" asks the " woman, who has called a number from a flier taped to the main gate of Iran's prestigious University of Tehran. The woman, an actress, is posing as a botany graduate student from Islamic Azad University (IAU), Abadeh, in Fars province. Her topic is the flora of the Khuzestan region, she explains with a Fars accent to the salesman at the other end of the line. He obligingly lays out a schedule for delivery of thesis chapters. "If your subject doesn't need lab work," he says, the cost will be a mere 1.8 million tomans (\$600), plus another \$400 if she desires a paper, pub-

lished under her name in a reputable journal.

The firm is one of a veritable army of outfits in Iran that offer to write theses and scientific papers for a fee, advertising on the internet, through fliers, and via the placard-carrying touts who line the sidewalk outside the University of Tehran. The actress, a movie star in Iran, was helping out a friend at the university who is infuriated with the firms—but the call she made on his behalf was hardly a sting. The transactions may be unethical, but they are legal. For now.

This autumn, Iran's parliament, the Majlis, is expected to take up work on a bill that would outlaw shady practices in scientific publishing. That's none too soon,

says Javad Rahighi, director of the Iranian Light Source Facility here. "It's very bad for Iran's science image," he says. "This is one of the problems of an oil and gas country," adds Sorena Sattari, Iran's vice president for science and technology. "We think we can buy everything."

It's unknown how many papers and theses are ginned up under false pretenses. In 2014, a member of Iran's Academy of Sciences estimated that each year as many as 5000 theses—roughly 10% of all master's and Ph.D. theses awarded in Iran—are bought from dealers. In a recent Google search, Behzad Ataie-Ashtiani, a civil engineering professor at Sharif University of Technology here who has shined a light on the practice (*Science*, 18 March, p. 1273), says he found 330,000 links to paper sellers in Farsi. He estimates there are at least a couple of thousand such operations in Iran. Iranian scientists publish about 30,000 papers a year in international journals, a 20-fold increase since the 1979 revolution (*Science*, 4 September 2015, p. 1029). Purchased publications "damage the reputation of large numbers of Iranian scientists who don't cheat, and erode the trust of the international scientific community," possibly endangering collaborations, says Hossein Akhani, a biologist at the University of Tehran.

Iran's paper bazaar echoes a similar phenomenon in China, where firms sell authorship slots on manuscripts (*Science*, 29 November 2013, p. 1035). But Iran's in-



Along a row of bookshops just outside the main gate of the University of Tehran, touts openly advertise for firms that write scientific papers and theses.

dustry has its own roots. Since 1979, the government has opened scores of universities, among them IAU and Payame Noor University, both of which have hundreds of branches across the country. Many politicians and diplomats solicit advanced degrees from these universities without earning them, says one scientist here who has tracked the issue. "They need someone to sell them ISI [Institute for Scientific Information] papers or theses." Possessing an advanced degree allows well-connected individuals to land important jobs, and by law credentialed employees earn a higher salary for the same job description. "Now, getting a degree this way is very fashionable," Rahighi says.

Ghost authorship is often hard to detect because many paper-writing companies strive to produce quality work. The authors apparently are often experts in the subject material who are adept at avoiding plagiarism and even conduct experiments when needed to complete the job.

A call to a different firm, this time by a University of Tehran professor posing as a biochemistry graduate student, revealed a meticulous approach. The firm, in its flier, advertises a knack for placing manuscripts in journals published by Springer and Elsevier. But there's no guarantee, the salesman says. "If you use unreal data ... your work will be invalid and they will find it out," he warns. The salesman offers to share the supplicant's data with "a specialist in your field of study, to see what we can do." Publication in an ISI

> journal, he says, will cost at least 5 million tomans (\$1660), with 30% down and the precise amount fixed after expert evaluation.

> It does not surprise Rahighi that scientists are involved in the trade. Science jobs are scarce in Iran, leading many able young graduates to drift into the paper-selling business, he says. "These are parasitic jobs, and an unhealthy way of doing things." But he questions whether many paper buyers really benefit. "If you can't find a job with a good thesis," he asks, "how can you find one with a bad thesis?" The problem, he predicts, should go away after Iran's economy improves, bringing more job opportunities in science.

Although paper sellers brazenly ply their trade just outside the University of Tehran, scientists here

think the problem is most acute at secondtier institutions. Universities with weaker standards should do a better job vetting theses, Rahighi says. "Examination systems should be set up in such a way to detect students who purchase their thesis."

The proposed law, if enforced, should solve the problem decisively. Drafted by the science ministry, the bill would make it a crime to produce academic works "for another party who wants to use the work to achieve an official educational degree or to get credit for promotion in academia." It calls for financial penalties and even jail time for paper sellers and customers. But the bill's fate is uncertain: One issue, Iranian scientists note, is whether legislators who obtained degrees in this manner will recuse themselves from the upcoming debate.

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