

Books & arts

their bacterial hosts. He showed that bacteria can sometimes render a lethal phage temporarily incapable of infecting further bacteria of the same strain, but still able to infect and kill other strains. Later research showed that these transient changes were due to bacterial restriction enzymes that target short strands of DNA. The enzymes became key molecular tools.

As Luria's success grew, so did his political involvement. He campaigned for racial desegregation and workers' rights. He supported Democratic candidates for Congress. He protested against the biological and nuclear weapons. He lobbied for academic freedom when the congressional House Un-American Activities Committee tried to impose anti-communist legislation on universities.

The FBI paid attention. Selya's description of the United States during the cold war has eerie similarities with communist East Germany. The FBI recruited friends and colleagues to dish dirt; Selya obtained the reports through the Freedom of Information Act. Most informants commented on Luria's liberal-mindedness but fell short of alleging that he was a member of the Communist Party. The agency illegally monitored his post, Selya writes. Most suspicious were two letters from New York, signed 'SA'. The sender? The magazine *Scientific American*.

FBI officials interviewed Luria about Pontecorvo, with whom he had minimal contact in the United States. They questioned others about Luria's loyalty, including physicist Ugo Fano, a childhood friend who had fled Italy in 1939 and helped Luria when he arrived (another section of the book where brevity left me with questions). In 1952, Luria was denied a passport to attend a scientific meeting in Europe and to visit his ill mother. (He finally got one in 1959.) He was also barred from federal funding review panels.

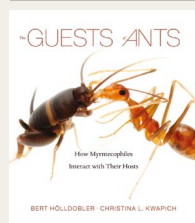
In 1950, he had joined the University of Illinois, but its policy of not employing spouses meant Luria's wife, psychologist Zella Hurwitz, could not work there. When she won a post in Boston, Luria transferred to MIT. There he modernized the biology faculty and research played second fiddle to administrative duties.

One thing irked many of Luria's illustrious colleagues in the 1980s: his criticism of the proposed Human Genome Project. He feared it could be abused for eugenic purposes. In an interview decades later, Watson called this proof that Luria "cared more about politics than science" (ironic given the prejudice that Watson is now infamous for).

Still, in a *Nature* obituary in 1991, Watson wrote of Luria: "there were few who did not feel better by being in his presence".

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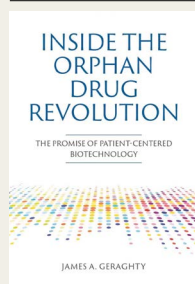
Books in brief



The Guests of Ants

Bert Hölldobler & Christina L. Kwapich *Belknap* (2022)

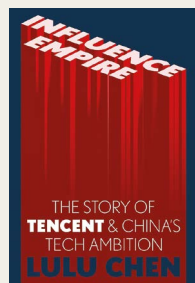
Ants are "easily fooled", write Bert Hölldobler and Christina Kwapich in their profoundly researched, gloriously illustrated treatise on ant symbiosis. Other organisms — including bacteria, butterflies, fungi and spiders — "can circumvent or break their code and exploit the social acquisitions of ant societies", for example by entering colonies and masquerading as ants, so their hosts cannot distinguish friend from foe. Hölldobler's erstwhile co-author E. O. Wilson, who died last year, admired this enchanting book as a "true classic".



Inside the Orphan Drug Revolution

James A. Geraghty *Cold Spring Harbor Laboratory Press* (2022)

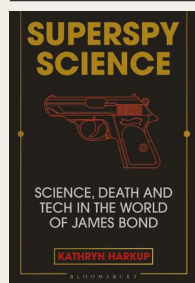
An 'orphan' disease is a rare condition that has been abandoned by the pharmaceutical industry. Fewer than 10 drugs were approved for orphan diseases in the United States in the 1970s — but since the 1983 Orphan Drug Act, there have been more than 900. Some have been developed by biotech companies where entrepreneur James Geraghty has held senior roles over four decades. His informative, sometimes passionate, account mixes patients' struggles with business, medicine, politics and technology.



Influence Empire

Lulu Yilun Chen *Hodder & Stoughton* (2022)

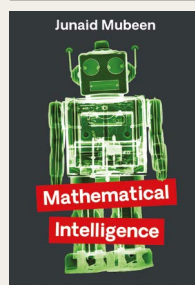
In 2017, Chinese company Tencent overtook Facebook financially. Founded in 1998 by Pony Ma, it merges the functions of Deliveroo, Facebook, PayPal, TikTok, Uber, WhatsApp and Yahoo into the super-app WeChat, notes reporter Lulu Chen. Her insider history, based on extensive interviews but discreetly unillustrated, wrestles with the tortured relationship between the Internet and China's authorities. She predicts that Tencent's future will be oriented — like an "overconfident dragon" — more towards China than the rest of the world.



Superspy Science

Kathryn Harkup *Bloomsbury* (2022)

Films starring secret agent James Bond are famous for their technology. But how reliable is their science? Kathryn Harkup — a chemist turned author — provides a stylish answer, film by film. For example, when author Ian Fleming published *Goldfinger* in 1959, lasers did not exist. When its adaptation appeared in 1964, they did. The movie showed a ruby laser making a death ray. In reality, death would have required a carbon dioxide laser producing infrared radiation, invisible to audiences.



Mathematical Intelligence

Junaid Mubeen *Profile* (2022)

For most of history, mathematics has been defined by calculation — whether with stones, slide rules or computers. This "false coupling" is why, argues mathematician and educator Junaid Mubeen, many fear that the increasing calculative power of artificial intelligence (AI) will overwhelm mathematicians. His intelligent analysis explains why computers will always complement, not replace, people. "Human knowledge", he says, "is embodied, emotive and subjective" — which can never be true of computers and AI. **Andrew Robinson**