Non-Fiction

'Engineers of Jihad: The Curious Connection between Violent Extremism and Education', by Diego Gambetta and Steffen Hertog

FEBRUARY 26, 2016 by: Review by Malise Ruthven

Observers of political Islam — including myself — have long noted that Islamist movements seeking power in Muslim majority countries tend to be dominated by students of applied sciences such an engineering rather than graduates in law, humanities and the "softer" social sciences. In *Engineers of Jihad*, Diego Gambetta, a sociologist and authority on suicide missions, and Steffen Hertog, a political scientist, combine their skills to support such broad-brush insights with an impressive underpinning of data backed by a galaxy of charts and graphs.

After examining the educational backgrounds of Islamist activists, both violent and non-violent, in Muslim majority countries, as well as militants born or raised in western countries, they find a "massive overrepresentation" of engineers relative to their weight in the broader working population. As the authors explain, "the odds on finding an engineer in [our] sample is *seventeen times greater* than what we would expect if engineers were as likely to radicalise as the male adult population in general". Medical doctors are also over-represented by as much as 10 times above the norm.

In two chapters, the authors explore the possibility that engineers may be drawn to Islamism because they are subject to feelings of "relative deprivation" resulting from the absence of engineering opportunities. Engineers in Muslim majority countries, like doctors, tend to enjoy high social status, and the combination of high aspirations with low achievement can be radicalising. The time when engineers rose to prominence in the Islamist movements in the Middle East and north Africa coincided with the period, from the late 1970s, when economic development ground to a halt and engineers "fell from the highest perch in terms of expectations and formed or joined Islamist movements that in previous decades had been led by lower-status graduates". The economic downturn led to feelings of being "unjustly deprived of a status for which they and their families [had] worked hard and sacrificed, and to which they felt entitled to aspire", as well as to grander ideas of proving their worth in shaping their countries' futures.

The theory of thwarted aspiration is supported by data from Saudi Arabia, an exception to the general pattern, where a booming private sector and hydrocarbon economy offered a wealth of engineering opportunities. Here the jihadi movements tended to attract graduates from less prestigious disciplines with lower admission requirements. But relative deprivation, argue Gambetta and Hertog, cannot be the whole story. For as the authors discovered, engineers continue to be vastly over-represented among radical Islamists in both western and South Asian countries, despite not being exposed to the same professional predicament as their peers in the Middle East. In an intriguing analysis showing that engineers feature more prominently in smaller than in larger jihadist groups, the authors argue that the over-representation of engineers is not driven by recruitment bias, such as the need for engineering skills in planning and executing terrorist operations, but is "supply driven". Rather than being targeted by recruiters, engineers elect to join jihadi movements out of conviction. Furthermore, once radicalised, they "seem more likely to be drawn to violent groups".

How do we explain this phenomenon? In their penultimate chapter the authors produce data showing that leftwing radicals such as the Baader-Meinhof group in Germany, the Red Brigades in Italy and Marx-inspired groups in the Americas as well as South Asia have tended towards the humanities, social

sciences and mathematics, with a striking paucity of engineers. By contrast engineers, as well as lawyers, have been much more prominent in rightwing movements, including German, Austrian as well as Russian neo-Nazis. The authors' conclusion that "engineers are more prominent among the right than among the left" in contemporary politics aligns with evidence they find that engineers were more ideologically committed than the lawyers who joined the Nazi elite in the early years of the Third Reich.

> The authors conclude that 'engineers are more prominent among the right than among the left'

The final chapter speculates on the cognitive and emotional traits shared by Islamists and adherents of other rightwing movements. Students of the humanities, like those of the "pure sciences", tend to have "more sophisticated and less closed views of knowledge than do students in engineering . . . Scientists learn to ask questions, while engineering students, like followers of text-based religions, rely more strongly on answers that have already been given". Engineering students from all backgrounds, they suggest, share a more rigid outlook than students of science and humanities. Intolerant of ambiguity, they show a preference for authoritarian systems and have more simplistic views about how the status quo can be changed. Far from them being more "religious" than other Muslims, it seems that it is the Islamist vision of a "corporatist, mechanistic and hierarchical" social order, combined with "well-regulated daily routines" that attracts them, and accounts for their over-representation.

This is an important study. While its conclusions are less surprising than the authors claim, the wealth of statistical data they bring to bear provides what was once a hypothesis with solid empirical grounding. Let us hope that, armed with this knowledge, educators will stress the importance of recognising the ambiguities in religious texts.

Malise Ruthven is author of 'Islam in the World' (OUP) and 'Encounters with Islam' (IB Tauris)

Engineers of Jihad: The Curious Connection between Violent Extremism and Education, by Diego Gambetta and Steffen Hertog, *Princeton, RRP£19.95/RRP$29.95, 208 pages*

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