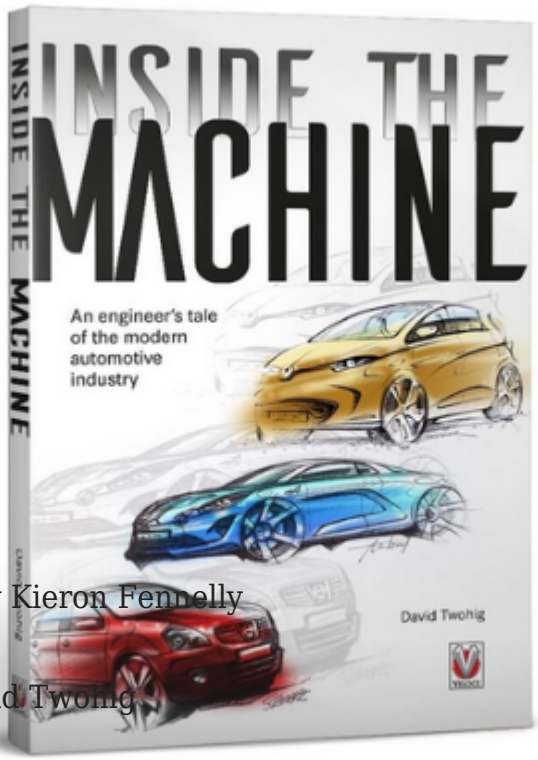
For Your Bookshelf – Inside the Machine – an engineer’s tale of the modern automotive industry

Published: August 18, 2022

Author: Kieron Fennelly

Online version:
https://www.wheels-alive.co.uk/for-your-bookshelf-inside-the-machine-an-engineers-tale-of-the-modern-automotive-industry/



Bookshelf – Inside the Machine

Reviewed by Kieron Fennelly

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Published by: Veloce: https://www.veloce.co.uk/

192 pages (hardback, and also available in softback)

UK List Price: £19.99 (hardback)

ISBN: 978-1-787117-68-6

Graduating from Cork university, David Twohig joined Nissan in 1992. An electrical engineer, he does his ‘apprenticeship’ on the line at Sunderland before going to Nissan’s R&D at Cranfield. Promotion to Nissan in Japan puts him in a group developing a small MPV, a cross between the Almera hatchback and the (Spanish) Almera Tino. He is deeply impressed by the logic and systematic approach of the Japanese, and when the company decides that the market is no longer there and abandons the project, he is hugely dismayed, but accepts the decision – the scene where Carlos Ghosn, jetting in specifically to adjudicate in this decision, provides a remarkable fly-on-the wall portrait of this extraordinarily charismatic operator.

Despite this setback however, Twohig becomes assistant chief engineer of a new study, an affordable crossover for Europe. Project P32L turns out to be the Nissan Qashqai, the car which effectively would go on to define the segment.

On the strength of this success, Twohig is invited to move full time to Japan, but admirer of their work-ethic that he is, marrying the company as he puts it, is a step too far. He is re-homed at Nissan’s partner Renault at the company’s R&D outside Versailles. Here he becomes assistant chief development engineer for the Zoe, then only the second small electric car after the Leaf. An electrical specialist, it is a tribute to the author’s narrative skills and practical nature that he is able to render his detailed descriptions of the potentially tedious complexity of an EV not just readable, but fascinating.

After the Zoe launch, he moves to Alpine, a true ‘skunkworks’ project he confides, and a bold move for Renault which again has to be authorised by top man Ghosn personally; the author leads the group that develops the new Berlinetta. In retrospect, he observes, “If the Qashqai was all about ruthless cost-engineering, the Zoe was about making cutting-edge new technology affordable, the new Alpine’s DNA could be summed up in one word: agility.” And it must be said, also in hindsight, that its developers succeeded: The Alpine weighed 250kg less than its rival, the Porsche Cayman and is by general agreement a distinctly more agile sports car. Alas, says Twohig, reputation means the Porsche has continued to out sell the French car many times over.

An astute engineer he may be, but the author's greatest achievement is producing an account of corporate life which reads like a novel, one with moments of great, unputdownable excitement – the episode where Top Gear's prototype Alpine combusted spontaneously for example. His analysis of the seemingly hierarchy-free Japanese methodology and the contrast with the polytechnique-dominated French management structure is fascinating, but he is also able to see both the effectiveness, and occasionally the weakness of each.

An open-minded Irishman, he suffers none of the not-invented-here myopia of a Briton (and probably a Frenchman too) and this extends into a particular ability to fit in: In Japan he develops a remarkable oral proficiency in the language and clearly after his decade and more in France, he is both fluent and thinking in French. Indeed, he well describes that wonderful light-bulb moment that all linguists will recognise, where, in the early days at Renault, he could suddenly *understand* through all the extraneous noise what is being said.

Verdict

After reading Twohig's memoir of his 25 years at Nissan-Renault it is no surprise to learn that he was subsequently headhunted to lead an EV start-up in California. *Inside the Machine* is a rare offering, a properly written engineering story which is both a convincing and indeed a compelling read.