Thirty years on

Richard Ennals¹

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The world does not change as much as we might imagine. The latest “Star Wars” movie is breaking all box office records, but, unlike the “Strategic Defense Initiative” (SDI, or “Star Wars”) in the 1980s, the movie is not accompanied by a proposed space-based programme of anti-missile lasers powered by nuclear explosions. Both the movie franchise and the editorial board of *AI & Society* have retained largely the same casts. President Ronald Reagan has been followed by President Barack Obama. Donald Trump waits in the wings, as Republican front-runner for 2016, happy to “break the mould”.

Artificial intelligence is situated at the boundary between fact and fiction. It has been defined as that part of computer science which does not yet work reliably. Products of earlier generations of AI are now taken for granted. There is debate about what may work in the future. Alan Turing predicted that people would say of computers that they were “intelligent”. This was a statement about language.

It is understandable, and perhaps inevitable, that politicians and businesses may seek to harness AI tools and systems to their own agendas. Ronald Reagan shared his dream of a “peace shield”, which would keep the USA and their allies safe from intercontinental ballistic missile attack. The “great communicator” was more familiar with Twentieth Century Fox than with Twentieth Century Science. The emperor had no clothes, but it was hard for Americans or their British allies to challenge the

development and implementation of a system which depended on new technology which was far beyond the state of the art, but was favoured by the US President.

In the USA, *Computing and Social Responsibility* drew attention to the formidable technical challenges which would need to be overcome. There were similar discussions among laser physicists. The technical debates had a limited impact on the wider public.

It is interesting to note that SDI was not implemented, and the project did not outlive the Reagan Presidency. Indeed, the project seems to have been airbrushed from American history, and from analyses of defence and IT policy. At the time, debate was very limited. There were passionate enthusiasts in the USA, but in the UK, any politician or industrialist who was well informed was either sceptical or opposed. There was thus little scientific or technical debate, but there were arguments about approaches to deterrence, and the implications of SDI for international treaties on arms reduction and testing.

Computer scientists found themselves in a similar position to that of physicists at the time of the Manhattan Project. They were caught up in policies and debates for which they felt poorly prepared. They received tempting offers of lucrative consultancies. Did it matter that the projects did not appear to be technically feasible? What were the professional ethical implications of engaging in such projects? This provided the agenda for a seminar in December 1985, hosted by the British Computer Society with the Institution of Electrical Engineers, with contributions from Prof Margaret Boden and Prof Bernard Williams.

In 1985–1986, we saw the consequences of a lack of informed debate. In technical terms, the SDI agenda overlapped those of the UK Alvey Programme in

✉ Richard Ennals
richard.ennals@gmail.com

¹ Department of Skill and Technology, Linnaeus University, SE-351 95 Växjö, Sweden

Advanced IT, and the EU ESPRIT programme. They planned to develop and use the same enabling technologies of logic programming and declarative systems. The US Pentagon wanted access to state-of-the-art UK technologies and would no longer make them available for civil projects. Two UK Cabinet ministers resigned but were not allowed to explain their reasons. US agents were apprehended seeking illicit access to those technologies and were deported. The UK government, who had signed a secret memorandum of understanding to participate in SDI, felt obliged to maintain a compliant façade, while putting in place damage limitation measures.

In 1985–1986, there was a series of meetings and rallies around the UK, where the platforms of speakers included computer scientists who took the opportunity to share their concerns with a wider audience. For some, this was their first venture into a political arena. In the past, they had been told that as computer scientists, they were outside politics.

Much could be learned from the SDI experience. In particular, we recognised the need for wider dialogue, bridging gaps between disciplines. AI and computer science have numerous applications, and it is necessary for prospective users to understand what the technologies can and cannot do. Computers are a universal technology, meaning that decisions can have far-reaching implications.

Dialogue should not be an afterthought, but integral to processes of academic study and research. Students and professionals need to be familiar with the views of others and able to communicate with people from different backgrounds. Dialogue is an ongoing process: we cannot expect to have access to the whole story. Dialogue requires

individual engagement. Ideally this would form part of the educational experience of computer scientists.

There is a corresponding need for those who become politicians and journalists to gain familiarity with technical issues. This includes awareness of past as well as current issues. We cannot afford breathless enthusiasm as a substitute for informed scepticism. There needs to be underpinning ethical understanding.

In the early days of *AI & Society*, we launched the *AI For Society Club*, which brought together technical experts and users. It was rapidly clear how much we had to learn. We need to understand the forms of life and language games of those we plan to help. The challenge remains.

Curmudgeon Corner Curmudgeon Corner is a short opinionated column on trends in technology, arts, science and society, commenting on issues of concern to the research community and wider society. Whilst the drive for super-human intelligence promotes potential benefits to wider society, it also raises deep concerns of existential risk, thereby highlighting the need for an ongoing conversation between technology and society. At the core of Curmudgeon concern is the question: What is it to be human in the age of the AI machine? -Editor.

Richard Ennals was a research manager at Imperial College Department of Computing and the Alvey Directorate. He resigned his posts in December 1985 in opposition to UK participation in SDI and then assisted in apprehending both Pentagon and Czech agents. His book “Star Wars: A Question of Initiative” (Wiley 1986) explored the real reasons for the resignations of Cabinet Ministers Michael Heseltine and Leon Brittan. He is now Professor of Skill and Technology at Linnaeus University, Sweden, and Review Editor of *AI & Society*.