An important thinker's further reflections

Jane Lethbridge *reviews the recently published collection of writings by Mike Cooley.*

Mike Cooley, *Delinquent Genius. The Strange Affair of Man and His Technology*, Nottingham: Spokesman Books 2018 247 pp, £11.99 780851 248783

Mike Cooley was one of the authors of the *Lucas Plan - the Plan for Socially Useful Production*. His book *Architect or Bee. The Human Price of Technology* argued for a more human-centred technology. The book reviewed here, published in 2018, is a collection of his writings over the last 20 years. It is timely in that the questioning of the role of digital technology has become a major political and social issue. Increasingly, people are searching for a way of exerting control over new technologies so that they are developed for the benefit of society rather than the corporations which design and sell them to increase profits. This book provides a new way of understanding technology and suggests ways of breaking out of what has become a dependent and unhealthy relationship between man and technology. It is a specifically gendered relationship in that it has effectively excluded women.

This book has some very useful things to say about education and how it has been affected by a very rigid view of technology. The development of the factory model can be traced to the way in which technology shaped the way in which products were made but a factory model is also applied to education and culture. Cooley asks, 'Is it correct to elevate these narrow, technocratic, specific procedures to universal principles for the organisation of society?' (p34). Universities and healthcare are increasingly being organised along factory lines. This transforms the way in which teachers or nurses are forced to work, having to deliver standardised services when what is needed is a more holistic approach to the needs of students or patients.

The factory approach is reflected in the way in which forms of education have developed which leave people powerless. Cooley describes this process as 'facts without knowledge' and argues for more human-centred products and systems. His explanation of why this has happened is useful for understanding what is happening with digital technology. The way in which machines have been created over centuries reflects how people walk, feel and increasingly think. Machines are designed to replace what individuals do. In industrial production this was often to reduce the need for workers, so replacing them with machines. In a domestic setting, it has been to do domestic tasks so that women could enter the workforce. Instead, if machines were designed to help people, this would change our relationship with them. With artificial intelligence, 'the real and the artificial can be confused if they are taken out of context' which presents machines as active and humanbeings passive (p26).

Dominance

One of the most important chapters examines the roles of participant and spectator and how the growing dominance of machines is turning us from being participants to being spectators. Cooley believes that 'evolutionary responsibility is being given to machines instead of giving it to young people'. This can be explained by the way in which companies provide products that limit the creativity

of individuals. For example, cooking can be reduced to a series of products which are packed ready for cooking with no skills required to cut, cook and create food for eating. This is applied to the way in which animals and plants are grown to fit a single size, shape and colour with implications for human health and environmental quality.

Cooley explores changes in cultural attitudes to the environment and materials. Over the last 500 years, people have lost their understanding of nature and their inter-relationship with it. It has led to people becoming 'appendages to our own machines'. Traditionally craftspeople value their materials, with nothing going to waste. As well as the woodworker who uses every part of the wood that comes from a tree, similarly the use of every part of, for example, a chicken or other types of food in cooking was part of women's work which was not valued. What is needed is a new set of values towards the environment and materials, which would inform production processes that retain the link between materials and the way in which work processes are organised. This would contribute to a different attitude to mending objects and 'breathing life back into an old object' (p131). This will be necessary to conserve increasingly scarce resources in future.

Subversive

The need to redefine the relationship with nature has implications for education. Cooley sees childhood as 'a subversive hotbed for the creation of tacit knowledge' or (as Polanyi wrote, 'those things we know but cannot tell' (p31). Cooley traces how his own childhood experiences helped him to learn about engineering processes but rather than build on childhood experiences, schools have become part of an educational production process, delivering 'compliance training so people will do what they are told' (p49). Cooley thinks that schools follow the factory model and so suppress creativity and imagination. Exams follow a deficit model which tests what we don't know.

Another problem with schools is that they separate children from the world of work and learning by doing (p56). Cooley suggests that schools should adopt project learning, where children are encouraged to solve problems. He is in favour of apprenticeships but used creatively rather than being part of a narrow government human capital policy. He thinks that universities promote standardisation and over-specialisation, which again reduces creativity and imagination.

Cooley is very critical of how science and technology are exclusively linked to objective thinking and analysis with a failure to value subjective and imaginative thought. His explanation for why this has happened is useful as a way of understanding how thought is shaped but may also give some indication of how we could think differently in future. in the 15th century the concept of design and the emergence of 'design' as a word shows that design was being separated from a wider holistic process of thinking and doing (p153). This was separating the hand (doing) from the brain (thinking).

About this time the concept of 'perspective' was invented which has had a great influence not just on art but on how 'a sense of perspective' is considered better than a more subjective view. Cooley analyses what this has done to how we think. Perspective creates a sense of looking at an object from a distance and of being a spectator. This led to a belief that we can only understand something by being distant from it. This approach ignores other senses which can contribute to understanding. Cooley describes this process as 'taking flight from reality'. This shapes how we think about addressing climate change and environmental issues - from an objective view rather than using our own senses and immediate experience. An objective view is valid but technology should try and unite the observer and participant, the near and the far, the objective/subjective and the intellectual and tactile (p158). This would allow more subjective, impressionistic views to be valued. It would challenge scientific reductionism which has 'no place for ambiguity, uncertainty or lack of clarity' (p98).

These chapters have been written at different times and for different audiences. This sometimes makes the flow of ideas slightly erratic but still makes the book exciting to read because it reaffirms what many people in education (and more widely) feel about the current state of what we learn and how we learn it. It helps to reconnect to feelings of excitement in learning about how things work. It is not in any way Luddite because it sees technology as important. Where the book is new is that it attempts to change the relationship between technology and society by changing the way in which we think and learn.