Engineering and Society: Working Towards Social Justice Part III: Engineering: Windows on Society

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Engineering and Society: Working Towards Social Justice
Part III: Engineering: Windows on Society

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SYNTHESIS LECTURES ON ENGINEERS, TECHNOLOGY AND SOCIETY #10

ABSTRACT

Engineers work in an increasingly complex entanglement of ideas, people, cultures, technology, systems and environments. Today, decisions made by engineers often have serious implications for not only their clients but for society as a whole and the natural world. Such decisions may potentially influence cultures, ways of living, as well as alter ecosystems which are in delicate balance. In order to make appropriate decisions and to co-create ideas and innovations within and among the complex networks of communities which currently exist and are be shaped by our decisions, we need to regain our place as professionals, to realise the significance of our work and to take responsibility in a much deeper sense. Engineers must develop the 'ability to respond' to emerging needs of all people, across all cultures. To do this requires insights and knowledge which are at present largely within the domain of the social and political sciences but which needs to be shared with our students in ways which are meaningful and relevant to engineering. This book attempts to do just that. In Part 1 Baillie introduces ideas associated with the ways in which engineers relate to the communities in which they work. Drawing on scholarship from science and technology studies, globalisation and development studies, as well as work in science communication and dialogue, this introductory text sets the scene for an engineering community which engages with the public. In Part 2 Catalano frames the thinking processes necessary to create ethical and just decisions in engineering, to understand the implications of our current decision making processes and think about ways in which we might adapt these to become more socially just in the future. In Part 3 Baillie and Catalano have provided case studies of everyday issues such as water, garbage and alarm clocks, to help us consider how we might see through the lenses of our new knowledge from Parts 1 and 2 and apply this to our every day existence as engineers.

KEYWORDS

engineering and society, social justice, ethics, engineering education, globalisation, public dialogue with engineering, engineering development, engineering studies

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