Interdisciplinarity in solving global challenges

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In 1959, the British scientist and novelist C. P. Snow gave his influential Rede lecture at Cambridge University. In it, he emphasised how science and the humanities, representing ‘the intellectual life of the whole of western society,’ have become split into ‘two cultures’ and that this division forms a major handicap to solving the world’s problems. These two cultures, according to Snow, are that of the natural scientists on one hand, and the literary intellectuals on the other.

Exactly fifty years later, in 2009, the renowned American psychologist and emeritus professor at Harvard University, J. Kagan published his book *The Three Cultures*, in which he rejects Snow’s proposed dichotomy of cultures, proposing instead a trichotomy of cultures that includes the culture of the social sciences, which he believed Snow had neglected. Thus, Kagan’s main thesis is that academia is composed of three communities – natural sciences, social sciences, and humanities – each with its own culture of vocabulary, methods, and questions.

What, then, is the relevance of these two theses to the context of this book? On a personal level, I am intrigued by contemporary global issues and challenges, such as climate change, water scarcity, and the emergence of artificial intelligence. As a graduate student, I tend to approach these challenges from an academic perspective, which, for a long time, was shaped by my background in mathematics and engineering. However, recognising that I am also a religious

and spiritual person with social and political interests, it seemed inadequate to approach these global challenges solely from the perspective of mathematics and engineering. To tackle this, in my perspective, incomplete approach to global challenges, I started following courses in politics, anthropology, and (Islamic) ethics at other universities, including the Azhar Institution and the American University in Cairo, alongside my regular studies at the Faculty of Engineering at Cairo University. Later, I moved back to the Netherlands to pursue a Master's degree in Water Management at the Technical University in Delft and further developed my interests in other academic disciplines at the Faculty of Religion and Theology at the Vrije Universiteit of Amsterdam. It was here that I came into contact with the economist and theologian Jan Jorrit Hasselaar, who invited me to deliver a speech at the 'Water in Times of Climate Change' symposium.

Whilst preparing for this event and reflecting on my own academic journey in understanding and studying water and climate change, I was reminded of Snow's work. Already more than 60 years ago, he pointed out the inability of natural sciences to solve global challenges such as climate change by themselves. And although interdisciplinarity and Challenge-Based Learning (CBL) are becoming more popular in several academic environments, by continuing to segregate natural sciences from social sciences and humanities at most of our (higher) educational institutions, we are leaving great potential for creative and effective solutions for contemporary challenges untapped.