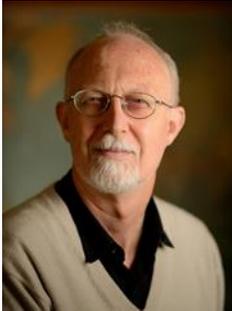


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Roland Fletcher is Professor of Theoretical and World Archaeology at the University of Sydney. He attended St. John's College at Cambridge University completing his PhD in 1975. He has worked at the University of Sydney since 1976 where he has implemented a global, multi-scalar, interdisciplinary approach to Archaeology. In 1995 he published *The Limits of Settlement Growth* with Cambridge University Press, a study of constraints on settlement growth over the past 15,000 years. As a result of the study he initiated extensive cross-disciplinary collaboration both within

the University and worldwide.

In 2000 he initiated an international collaboration with APSARA, the Cambodian government agency that manages Angkor, and with the Ecole française d'Extrême Orient which developed into the Greater Angkor Project. He is now Director of the University of Sydney's Angkor Research Program. He was a Distinguished Fellow of Durham University's Institute of Advanced Study in 2007, an invited speaker at the Falling Walls Conference in Berlin, a keynote speaker at the University of Minneapolis, Institute of Advanced Study Resilience and Sustainability conference, and at the Leiden University, Institute of SE Asian Studies in 2014. In 2015 he was keynote speaker at the Chinese Institute of Urban Planners symposium in Nanjing and at the Shanghai World Archaeological Forum.

**Climate change and disrupted cities: Past and future**

The long-term story of large, low-density settlements is not an encouraging indicator of the long-term viability of the giant low-density, industrial-based urban agglomerates of the 21st century. The two previous trajectories to large, low-density settlements tell a disturbing story. One trajectory, from the 5<sup>th</sup> millennium BCE onwards created settlements up to 70 sq km in extent, such as Great Zimbabwe. The other, between the late 1st millennium BCE and the mid 2<sup>nd</sup> millennium CE, led to agrarian-based, dispersed, low-density cities with sizes up to 1000 sq km, like Angkor. These are terminal trajectories. Neither had any continuity with the other or with the trajectory of present day, industrial, low-density cities like Greater Shanghai.

Even more worrying, the diverse histories and economies of the great agrarian, low-density cities of the Maya and the Khmer display a vulnerability to severe climate change which should concern us. These cities had cleared their natural landscapes and were dependent on massive material infrastructure, like great reservoirs. They were then hit by periods of extremely unstable climate change that picked out their basic operational vulnerabilities. And when the low – density cities ceased to function their entire urban heartland regions, covering thousands of square kilometres, reverted to village-scale life. Low-density urbanism never recovered. Over several centuries, a new network of small, compact towns re-formed but far out on the periphery of the former heartland regions.

Our circumstances are disturbingly similar – extensive landscape modification, dependence on massive infrastructure and huge populations in giant low-density cities, confronted by severe unstable climate change. The example of the old agrarian, low-density cities is of some concern because their economies, socio-political organisation and cultures were very different yet the outcome was similar and terminal. We should beware if the same outcome were to happen to our giant low-density cities. The urban heartlands of the eastern USA, Western Europe and eastern China, Korea and Japan would disintegrate. Eventually, new urban networks would be reconstituted, but far way around the coasts and deep into the interior of the continents, profoundly remaking the human social world.