The Hakubi Project welcomes applications from researchers throughout the world regardless of the applicant's nationality, and is open to any researcher holding a doctoral degree in any academic field (or with equivalent research abilities in any basic or applied studies). www.hakubi.kyoto-u.ac.jp/eng

## Cooperation through Competition? Sport and Region Formation in the Southeast Asian Games

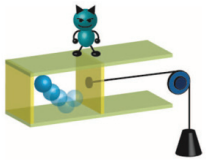
Simon Creak, Hakubi Center for Advanced Research and Center for Southeast Asian Studies

Long overlooked as a diversion from the serious business of social life and scholarship, the field of sports is now firmly entrenched as a subject of inter-disciplinary social scientific research, shedding light on such core human concerns as gender and body politics, nationalism, and globalization. Scholars have been much slower, however, to examine the role sports might play in the culture and politics of regional formation.

Dr. Simon Creak, a Hakubi Project Associate Professor based in the Center for Southeast Asian Studies, is seeking to address this and other questions in his study of the Southeast Asian (SEA) Games (1959~present), a multi-sport event adapted from the Asian Games and the Olympics. Originally called the South East Asia Peninsular (SEAP) Games, and limited to Burma, Cambodia, Malaya, Laos, Singapore, South Vietnam, and Thailand, the event was later renamed the SEA Games and expanded to Indonesia, the Philippines, Brunei, and, much more recently, Timor Leste.

Trained as a historian at the University of Melbourne and The Australian National University, Dr. Creak is examining how changing notions of the Southeast Asian region have been produced and experienced in the games, and how these have intersected with nationalism and global issues. More particularly, he is interested in the special capacity of sport, as a form of physical or embodied culture, to substantiate and perhaps even create these motifs, and how such socio-cultural aspects interact with the political roots and economic realities of the event.

## Maxwell's Demon in the Real World



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Time flies in one direction. This is one of the most fundamental laws in physics. The one-directionality of time can quantitatively be characterized by the second law of thermodynamics, which states that the entropy—a measure of randomness—in the whole universe always increases. In the nineteenth century, however, J. C. Maxwell proposed a counter *gedankenexperiment* (thought experiment): if a hypothetical being called "Maxwell's demon" could distinguish and control individual molecules in a thermodynamic engine, it seems that the demon would be able to violate the second law. Since then, for over than a century, there have been intense controversies about the consistency between the demon and the second law.

Dr. Takahiro Sagawa has been working on the fundamental aspect of the second law and Maxwell's demon in terms of modern statistical physics and information theory. From the modern point of view, the key to reconciling the demon with the second law is the concept of information. In fact, the resource for the decrease of entropy is the information obtained by the demon. Dr. Sagawa constructed a rigorous and general theory that quantitatively shows the relationship between thermodynamics and information, and explicitly validates the consistency between the second law and the demon. Moreover, Dr. Sagawa and his collaborators have experimentally realized Maxwell's demon for the first time by using colloidal particles. Their experiment established that the demon can exist in the real world beyond a classic *gedankenexperiment*, and can be a bridge between physics and information theory.