The Future of *Kokoro* in the AI Era

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The question, "Can machines have a *kokoro*?", is being asked with increasing frequency today. It is not an easy one to answer; because of the kokoro's highly ambiguous and multifaceted nature, the answer will vary greatly depending on which aspects of it one chooses to focus on.

One aspect of the kokoro that demands special attention in the age of AI is that of ethical accountability. As an example, AI diagnosis, one of today's emerging medical technologies, is not free of errors and thus raises the question: who should take responsibility for a misdiagnosis made by AI?

To answer this and similar questions, we must take a deeper look at the idea of autonomy. All organisms, including humans, have biological (theoretical) autonomy. That is to say, our behavior follows self-referentially determined rules. This makes it impossible, in principle, to accurately predict our actions from the outside. In contrast, machines are heteronomous, meaning that they act only as directed or programmed. Although AI programs have a certain complexity and non-transparency that in some cases render them pseudo-autonomous, machines still lack biological (theoretical) autonomy, making it impracticable to treat them as having a free will or hold them accountable for their actions.

The question of autonomy must be addressed in all debates about the pros and cons of specific AI applications. Examples of the applications that need to be examined from this perspective include automated driving, which is a highly promising technology but as of today remains incapable of handling sudden environmental changes. Another application, individual scoring based on educational background, medical history, and other data, has become a growing trend, but can potentially give rise to new forms of discrimination. Lastly, there have recently been attempts to make AI draw pictures and compose *haiku* poems. Whether such creations truly qualify as works of art is another difficult question, one we must consider carefully before drawing any conclusions.

If we are to understand where the kokoro is headed in the AI era, it is important that we pay close attention to both the benefits and risks of embracing AI technologies.