## A Solution to the Continuant(Endurant) vs. Occurrent(Perdurant) issue -- Endurantism vs. Perdurantism --

Riichiro Mizoguchi, Osaka University http://www.ei.sanken.osaka-u.ac.jp/

Keywords: Ontology, 3D model, 4D model, Endurantism, Perdurantism, Continuant, Occurrent.

The key issue here is how to differentiate the two: Continuant(Object) and Occurrent(Process). More concretely, how to model a person: continuant or occurrent?

My personal solution to this long-lasting debate would be a revolutionary idea that

## Continuant is a role in the context of process.

It is apparent we have to accept the fact that everything is changing. There is nothing which exists in the world forever without any change. At the same time, however, it is also true that we see essential differences between objects and processes. To solve this conflicting issue, it is helpful for us to consider what a process is. There are two kinds of processes: (a) External and (b) Internal processes in this context.

- (a) One such as "walking", "tennis", etc. which require *participants* such as person, ground, players, racket, ball, etc.). Such a process is the (interactive) behavior among them.
- (b) One which is the change of the participants themselves. The change process is an internal process of the participants.

Processes of type (a) intrinsically need participants which necessarily play the *continuant role*. Those participants cannot play a process role in (a) from the definition. In the processes of type (b), on the other hand, something playing the *continuant role* also intrinsically exists, since the change process is the internal one in the participants which is already recognized as something playing the *continuant role*. Furthermore, the internal change process is composed of processes of type (a) which in turn identifies other participants of finer grain sizes. Therefore, we always can say there exists a thing which intrinsically plays the continuant role, which is almost equivalent to the idea that *continuant* exists as an independent category. For example, a tornado can cause some destructive effects to its existing area as a process of type (a) and it changes as a process of type (b). We do not try to identify if a tornado is an object or a process. We only have to identify the *continuant role* in it in any case. A tornado and a person are in the same category in this context, that is, both are continuants which continuously change as time goes keeping its diachronic identity. The difference between them is not categorical but matter of degree, that is, the former changes faster than the latter. Therefore, it is safe for us to say "a tornado is a continuant" in the above sense(type a). This shows that object(continuant) and process(occurrent) are co-existent like substance and attribute. Neither can exist without the other. As far as I understand, both continuant and occurrent can be regarded as the top-level categories in an upper ontology like substance and attribute.