
From: jeffrey E. <jeevacation@gmail.com>
Sent: Monday, December 4, 2017 1:55 PM
To: Misha Gromov
Subject: Re:

similar to what does it mean to have an ordinal. =A0 an ordinal in your language is the "understood object" = you take the sets of all things that are close to it , =ultidimensional sets and undergo recursion in order to c=me close the "understood" the narrowest of definition. =A0

On =on, Dec 4, 2017 at 8:24 AM, Misha Gromov [REDACTED] wrot=:

Can't say i got it, why "understanding"

On Mon, 4 Dec 2017 07:59:01 -0500, jeffrey E. wrote:

why is transfinite recursion <https://en.wikipedia.org/wiki/Transfinite_recursion> a good=model for understanding – the proof that the result is well-define= uses transfinite induction. Let F denote a (class) function = to be defined on the ordinals. The idea now is that, in defining (α) for an unspecified ordinal α , one may assume that $=(\beta)$ is already defined for all $\beta < \alpha$ and thus give a formula for $=(\alpha)$ in terms of these $F(\beta)$. It then follows by tra=sfinite induction that there is one and only one function satisfying the r=cursion formula up to and including α .

(more will be given later): define function F by letting $F<=em>(\alpha)$ be the smallest ordinal not in the set $\{F(\beta) \mid \beta < \alpha\}$ = that is, the set consisting of all $F(\beta)$ for $\beta < \alpha$. This definiti=n assumes the $F(\beta)$ known in the very process of defining ; this apparent vicious circle is exactly what definition by transfi=ite recursion permits. In fact, $F(0)$ makes sense since there is n= ordinal $\beta < 0</=pan>$, and the set $\{F<=em>(\beta) \mid \beta < 0\}$ is empty. So $F(0)$ is equal t= 0 (the smallest ordinal of all). Now that $F(0)$ is known, the def=nition applied to $F(1)$ makes sense (it is the smallest ordinal no= in the singleton set $\{F<=m>F(0)\} = \{0\}$), and so on .

it sort of says an approximation to truth. by reduction. alt=rnately we can add other dimensions.

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please note

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