

## Vásconez, "Contradictorial Gradualism vs. Discontinuism"

**1.- The Soritical Series.**- Easy cases: two extremes + every pair so very much alike that

(CP) *Continuation Principle*:  $\sim(Fa_i \wedge \sim Fa_{i+1})$ , or

(SP) *Similarity Principle*:  $Fa_i \wedge Fa_{i+1} \vee \sim Fa_i \wedge \sim Fa_{i+1}$ .

N.B. Both principles are formulated with weak negation. Invalid with strong negation, '¬'.

**2.- Two Questions and One Problem.** Our point of departure: occurrence of a soritical transition.

Q1: What is the nature of the transition? Gradual or abrupt?

Q2: Why does the transition happen? What is its condition of possibility?

Problem: If (CP) seems to prohibit the emergence of a dividing line, how the transition is possible?

If there is a transition  $\Rightarrow$  contradiction:  $a_{50}$  is F and not F, by (SP).

*Prima facie* incompatibility between the soritical series and the transition.

**3.- Nihilism.**- There is no transition.

ASSESSMENT.- Nihilism offers no positive clarification, no constructive account of Q1, nor of Q2.

**4a.- Discontinuism and Abrupt Transition.**- CP is false. The soritical series is impossible. Then,

(DT) *Discontinuity Thesis*:  $\exists a_i (Fa_i \wedge \neg Fa_{i+1})$ .

There is a sharp cut-off point.  $a_1$  bipartitions the series  $\Rightarrow$  there are no borderline cases.

*Tertium non datur.*

Answer to Q1: sudden transition. Punctual. Death is instantaneous. Change would not be continuous.

Change reduced to a precipitous replacement of two stages.

ASSESSMENT.- Unacceptable dualism for its inadmissible consequences.

Transitions are contradictory. Ex. walking out of the room.

*Reductio ad absurdum* not valid for weak negation.

**4b.- ...and the Cause of Change.**- Answer to Q2: Passage from  $a_i$  to  $a_{i+1}$  accounts for the transition.

ASSESSMENT.- Not every alteration in the underlying dimension G produces changes in F.

There is lack of proportional correspondence between changes in G and changes in F/not F.

Small quantitative changes in G might produce large changes in the supervening F.

Minimal change in G (losing one hair) does not explain drastic change in F (becoming bald).

Why change? There is no principled ground. Point  $a_i$  is arbitrary. Enigmatic transition.

**5.- Contradictorial Gradualism** (Lorenzo Peña)

**5a.- Fuzziness** = intermediate zone between the extremes of the soritical series.

Gradual & Contradictory. Not homogeneous: different proportions of F and not F.

**5b.- Degrees of Properties.**- 1) Ancients formulated problem in gradual terms.

Little by little. The sophism affects anything having a measure of extent.

2) If all elements in the series were F to the same extent, F would be *unceasing*.

F will not stop in a non arbitrary way.

If rigidity were not gradual, there would be no stiffening. If there are no degrees  $\Rightarrow$  nor gradual change.

Smooth change made possible by degrees.

**5c.- Degrees of Truth.**- (RT\*) *Redundancy Truth*: That 'a is F' is true is equivalent to a is F.

But the right member is gradual. Therefore, the left member also, by replacement of equivalents.

(GRT) *Generalized Redundancy Truth*: That 'a is F' is ... true is equivalent to a is ... F.

Degrees of truth designated & antidesignated to reflect intermediate stages in the transition.

**5d.- Minimalism vs. Maximalism.**- *Maximalism* holds the *Maximalization Rule*:

(MR) "p" is true  $\vdash$  "p" is completely true.

It is far too demanding. We would be deprived of intermediate cases. Analogy with *utilitarianism*.

Where the series is open on one side,  $\forall x \sim Fx$ . But this is  $1/\infty$  true. Its negation,  $\exists x Fx$ , is  $1/\infty$  false.

If (MR) is unpalatable, and intermediate positions arbitrary, we opt for the *Acquiescence Rule*:

(AR) "p" is more or less true  $\vdash$  "p" is true.

For *minimalism*, "p" is true provided that it is not completely false.

**5e.- From Degrees to Contradictions.**- Something not totally F is partially not F.

A fuzzy case is to some extent F & to some extent not F. Applying (AR)  $\Rightarrow$  contradiction.

**5f.- Gradual Transition.**- F diminishes in the same amount as not F augments.

$a_{50}$  is a *soft* limit. (SP) and (CP) preserved: their truth ranges from 0.5 to 0.99 true.

Therefore, there is no discontinuity.

Answer to Q1: the transition occurs through intermediate stages.

Answer to Q2: F changes because of proportional change in the parameter G.