Radical Antirealism and Substructural Logics

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I shall first argue in favour of a radicalizalion of the antirealist critique of classical 109ic along lines developed by C. Wright ('Strict Finitism', *Synthese*, vol. 51, 1982), N. Tennant and J. Dubucs ('Logique, effectivité et faisabilité ', *Dialogue*, vol. 36, 1997). Any definition of assertabity conditions must satisfy two principles, namely that conditions under which the assertion of a sentence is justified must, when satisfied, always be recognized as being satisfied and that the definition of the conditions under which the assertion of a sentence is justified must not make an explicit appeal to our cognitive capacities. In order for the definition fully to satisfy these principles, our cognitive capacities must allow us to recognize a sentence as assertable when it is, i.e., one must be able to recognize the object $\mathrm{Pr}(s)$, an effective proof of s, when there is one. I argue that this must be understood as the strong claim that one must be able to produce the object $\mathrm{Pr}(s)$, so that the upshot of radical antirealism is the adoption of an anti-Platonist conception of proofs close to the perpective of the physical execution of the rule adopted by Girard" 1 then adopt the perspective of K. Dosen ('Logical Constants as Punctuation Marks', *Notre Dame Journal of Format Logic*, vol. 30, 1989), according to which "two logical systems are alternative if and only if they differ only in their assumptions on structural deductions" and argue that radical antirealism requires not focus on logical rule (in natural deduction calculi) but a weakening of structural rules in (sequent calculi). Tennant had already argued in *Anti-Realism and Logic* (Oxford, 1987) for the adoption of intuitionistic relevant logic; I shall point out that rather, radical antirealism provides a justification for the further restrictions leading to Girard's linear logic.

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