Librationist accounts of paradox and other mathematical phenomena

Librationism's name was coined from ”libration” partly because of its invocation of shifts in perspectives in its treatment of paradoxes. It's a semiformal theory of *sorts*; all sorts are properties, but not all properties are sorts. Iterative sorts as those in the least Jensen-closure of ω are sets, but not all sorts are sets in this iterative sense. All conditions on a variable engender a sort, so librationism includes universal sorts and other non-wellfounded sorts; it's a non-extensional theory. Librationism *reminds* of paraconsistent approaches, but unlike these keeps all theorems of classical logic and never contradicts any of those. For paradoxical sentences such as the one stating that Russell's sort (of all and only sorts that are not self-membered) is a member of itself, librationism proves it, while it also proves its negation. Inference rules are novel, so librationism doesn't prove the conjunction. The librationist perspectives are immune to revenge paradoxes. The semantics is based on a semi inductive Herzberger process, and focuses on one designated model; so librationism is negation complete. This also facilitates an account of Curry's paradox. Librationism is very strong. A fixed point construction shows it's fully impredicative and interprets $ID_{<\omega}$ + Bar-Induction. Related constructions will lift this significantly. Recent progress suggests an *Arithmetical Program* may be viable as suggested in Bjørdal (2011). Surprisingly, Cantor's entirely valid arguments for uncountable infinites do not prove the existence of uncountable infinities librationistically, but instead serve to show that the assumption that certain sorts are not paradoxical must be given up.

References

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