

**A. New Ideas on the Classification, Age, Interpretation, and Tectonic History of the Precambrian Shield in Saskatchewan**

# Advances in Subdivision of the Trans-Hudson Orogen and Its Hinterland in Saskatchewan

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## ABSTRACT

*Since the mid-1960s, changes in geological subdivision and nomenclature in the Trans-Hudson Orogen have generally, but not invariably, reflected significant advances in understanding of geological relations in, and/or evolution of, the orogen. Such advances were based mainly on good field mapping, augmented more recently by ancillary geochemical, geophysical, and radiometric age data. In some instances, a new domainal scheme itself influenced the focus of subsequent work and led to advances in understanding. Several phases in evolution of current nomenclature are discussed:*

***Pre-1972:** before production of a new Saskatchewan geological map in 1972, some major geological belts (e.g. Wollaston, La Ronge, Flin Flon, Kisseynew) were already defined on the basis of GSC reconnaissance work and more detailed provincial survey mapping, but no overall systematic subdivision of the orogen and its hinterland was possible. Indeed, the orogen itself was not defined - though the 1970 synthesis of McGlynn came close.*

***1972-1980:** the earliest, partial version of the 'modern' domainal divisions of the Saskatchewan Shield was derived directly from the new 1972 provincial geological map. Subsequent evolution of a comprehensive domainal subdivision was intimately tied to advances generated by large-area 'semi-reconnaissance' provincial survey mapping, also initiated in 1972 and extending into the early 1980s.*

***1980-1987:** a period of consolidation, refinement, recognition of major tectonic discontinuities, early U-Pb zircon age dating, accumulation of geochemical data, and 'grouping' of domains, leading to the clearer recognition of fundamental differences between the juvenile Reindeer Zone and bounding, reworked Archean continental cratons (e.g. Cree Lake Zone).*

***1987-1990:** the start of this phase is defined by the first systematic attempt to replace/augment old two dimensional domains of the Reindeer Zone with a revised subdivision that more clearly reflected the three dimensional crustal architecture and large-scale tectonic imbrication.*

***1990-Present:** the LITHOPROBE-NATMAP era, which has seen greater advances in the geological database and interpretation of the orogen than any other comparable interval, with concomitant refinements of geological subdivision.*

*Rapidly 'mutating' subdivision and nomenclature, while perhaps annoying and confusing to some members of the geological community, must be viewed as an inevitable manifestation of intellectual 'vigour', marking increasing understanding and the generation of new concepts: the names are far less important than the ideas behind them. In retrospect, however, the author would urge brevity in any new names - it makes text figure labelling much easier!*