

SIGNATURES OF STREAMS

TERRY LYONS

A calculator processes numbers without caring that these numbers refer to items in our shopping, or the calculations involved in designing an airplane. Number without context is a remarkable abstraction that we learn as infants and which has profoundly affected our world.

Our lives start, progress in complex ways, and are finally complete. Tasks executed on a computer are processed sequentially. Humans have a natural intuition for abstract order as well as numbers. Today, multimodal streams are a pervasive mathematical “type”, and even without fixing the context, have a rich structure. Developing this structure leads to wide-ranging tools that have had award-winning impact on methodology in health care, finance, and computer technology.