**3 Main ideas**

* Lithological differences
* Terminology complications
* Economic impact

**Terminology Complications**

* Fan delta is described as alluvial fan prograding directly into a standing body of water . (Holmes 65)
* Over the years this definition has become ambiguous and includes environments not as described originally.
* Wide variety of interpretation for “fan-delta” term
* This interpretation removes the valuable association of alluvial fan/highland depositional area and small area of deposition
* Including braided river deltas in this definition is confusing, and potentially economically detrimental
* Using the fan shape of a delta to classify is also less than desirable
  + Most deltas are fan shaped no matter what processes build it
* Braid deltas are included in “fan” delta many times because there is no specific terminology to describe a braid delta.
* Authors propose to introduce terminology of “braid delta” and to restrict definition fan delta to that of original definition.

**Lithological Differences**

* Main differences are within the subaerial components of fan and braid deltas
* Fan delta can be classified as fine grained marine or lacustrine muds overlain by alluvial debris flows and interbedded sheetflood and stream channel conglomerates and sandstones.
* If the marine or lacustrine mudstones are overlain by thick braided river deposits before being overlain by alluvial fan facies, it should be classified as a braid delta.
* Alluvial fans are features with relatively restricted size, which distinguishes them from braided river deposits.
* Alluvial fans occur directly adjacent to an active fault, and are generally taken as direct evidence of a major fault in the rock record while braided rivers have no such correlation.
  + Thus, important paleotectonic and paleo geographic information can be lost by classifying both together.
* Sheet flood and shallow channelized flow is common in alluvial fans
  + Sheetflood and stream channel give way to massive clast supported conglomerate which is the most abundant alluvial fan facies
* Sediment gravity flow deposits are most important in identifying alluvial fan deposits.
* Alluvial fans have considerable vertical and lateral variability due to short transport distances
* .Braid deltas show evidence of deeper, highly channelized flow
* This is typically an abundance of cross stratification and normal grading
* Debris flows are absent in braid deltas
* Braid deltas have high lateral continuity because of their longer transport distances.
* Braid deltas frequently have large scale extensive sheetlike deposits.

**Economic Impact**

* Both Fan and braid deltas are favorably positioned as hydrocarbon reservoirs because they are placed up-dip from marine or lacustrine sources.
* Fan deltas are typically poor quality hydrocarbon reservoirs due to the fact that they have low porosity and permeability, are geologically small, with many abrupt facies changes, and commonly cemented by carbonates.
* Braid deltas are generally good hydrocarbon reservoirs because they have much better sorting and much lower matrix content which leads to a much higher porosity and permeability. They are also much larger in respect to fan deltas.