QUANTITATIVE REVOLUTION

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NOW IS Th
TIME FOR
REVOLUTIO

- After the 2nd World War, Geographers, especially of developed countries, realized the significance of using Mathematical Language, rather than the language of Literature in Geography.
- e.g. **Af** in Koppen's classification of Climate meaning Tropical Rainforest

- in 1949, **World Social Science Congress** was held at Princeton University in the USA
- **2 major conclusions in this were –**
  - **Subject Matter should be relevant for society** i.e. Practically applicable
  - The **approach has become obsolete in a changed socio-economic situation**,

REASONS FOR QR

- After the 2nd World War **Quantitative Revolution became prominent because** World Social Science Congress held in 1949
- America & Canadian University dropped Geography
- Schaeffer's argument supporting the Nomothetic Approach
- Geographers themselves wanted Geography to be at par with Physical Sciences
- Vietnam war

LATER

- **Zipf** (1st Geographer to use new methods) came up with a research paper titled – "Human Behaviour & Principles of least effort" in 1949.
- **Burton** firstly introduced Statistical Methods in Geography and published a **research paper "Qualitative Revolution & Theoretical Geography".**

BASICS OF QR

- The term '**Quantitative Revolution' was coined by Burton in 1963**
- Definition – "The application of **Statistical and Mathematical techniques, theorems, proofs** in the understanding geographical system is **called as Quantitative Revolution** in Geography"

METHODOLOGY

- ✓ **Mathematical tools,**
- ✓ **Statistical Analysis,**
- ✓ **Laws of Physics, etc**
- ✓ **Cybernetics** – Branch of Physics which includes a study of regulating or self-regulating systems
- ✓ **Neoclassical Economics** – Ricardo, Adam Smith, Weber, Keynes
- ✓ which provided objectivity and Scientific touch

GEOGRAPHERS YOU cann't FORGET

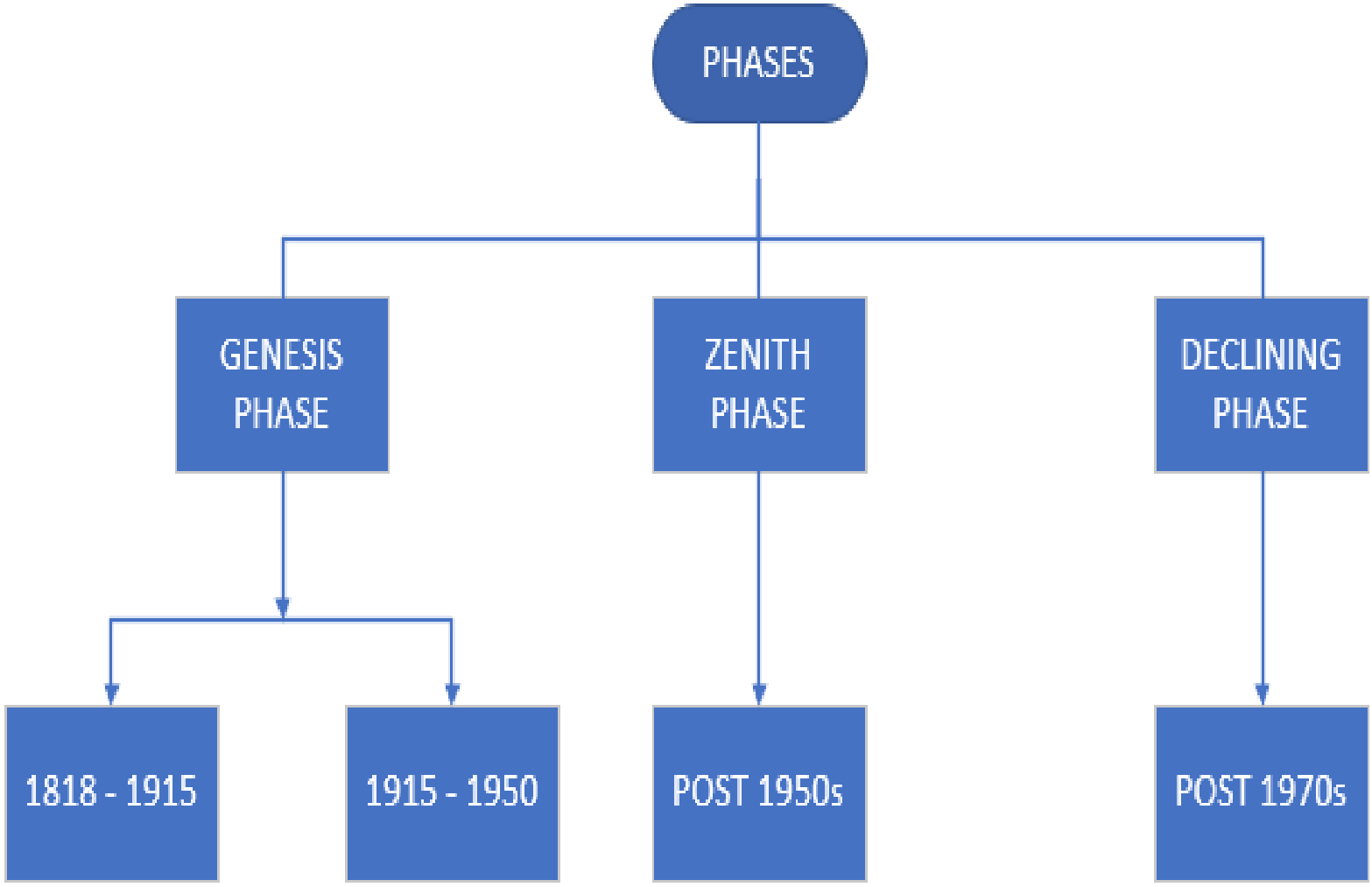
- Profound supporters of the Quantitative Revolution were

- Neil Harvey,
- Schaeffer,
- Ackerman,
- Haggett,
- Chorley, etc

ASSUMPTIONS

such as –

- **Man is economic and rational**
- **Man has infinite knowledge** of his environment and resources
- Space (Environment and Resources) is **isotropic surface**
- There is **no place for normative questions** like cultural values, social values, emotions, etc in Geographical Research
- Assumed prices **to be the same everywhere.**


PHASES
GENESIS PHASE
ZENITH PHASE
DECLINING PHASE
1818 - 1915
1915 - 1950
POST 1950s
POST 1970s

- **Phase 1 – Genesis Phase1818-1915**
  - Von Thunen Model for Agriculture
  - Weber Industrial Model
  - Migration laws of Ravenstein etc
- **1915-1950**
  - Settlement Geography
  - Rank Size Rule
  - Primate City Concept
  - Some economic models etc

Phase 2 – Zenith Phase1950-1970

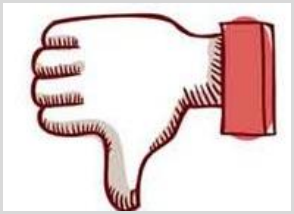
Several models were created such as the Gravity Model, Distance Decay law, Losch Model, the sphere of Urban Influence, etc

Phase 3 – Declining PhasePost-1970s

After 1976, the Quantitative Revolution was suddenly abandoned as its supporters stopped supporting it due to its lost relevance
Limitations of Quantitative Revolution came to the front

ADVANTAGES OF QR

- improved **the functional relevance** of geography
- **new lease of Life to Geography**
- Geography became **well structured & geographical ideas became precise and accurate**
- It developed **objectivity**
- It **helped in describing, analyzing, and simplifying Geographical Systems**
- Geographers are now being **able to make use of primary information** and are no more dependent on secondary and tertiary sources (such as other sciences)
- Modern Geography is **capable of developing scientific theories and models.**
- helpful to planners for the development of infrastructure and socio-economic variables



DEMERITS OF QR

- It rejected man and his normative questions like faith, belief, emotions, customs, desires, prejudices, aesthetic values, etc
- Isotopic surface and other idealistic conditions are never found
- The **man became a point on the surface**
- promotes Capitalism
- seen as one of economic determinism
- demand reliable data which is rarely available

CONCLUSION

- it was a Quantitative Revolution which could bring **scientific understanding** in Geography
- It was realized that the use of Quantitative tools cannot provide relevant conclusions for all geographic problems. Hence, after the 1970s, there has been an emphasis on the selective use of such tools
- Often a **combination of the quantitative and qualitative approach** is more satisfactory for making estimations and predictions in geography