

## Goethe and Newton – Dual Approaches to the World

The list below compares the Goethean and Newtonian approaches to phenomena of the world. Although coming primarily out of Goethe's and Newton's respective work in the realm of optics, the general principles of each approach can apply to any realm of experience, both inner and outer. The list is only a characterization and has been created to reflect a contemporary inheritance of approaches which can be seen archetypally in the experiments of Goethe and Newton, and as such is not meant to be an accurate historical outline of these individual's views.

Ultimately, what is important is the recognition that these two approaches are *mutually complementary*, and using both modalities to approach a given phenomenon will yield a more full and comprehensive understanding than either approach taken in isolation (an insight actually gained from within the Goethean approach).

<b>Goethean</b>	<b>Newtonian</b>
Exploratory experimentation	Theory-based
Process	Facts
Qualitative	Quantitative
Experiments and concepts evolve together	Experiments designed to test previously formulated theories
Many slightly different experiments are performed with the idea of bringing to light connections between all the different manifestations of a phenomenon	“Experimentum Crucis” – a single, definitive experiment “worth 1000 others” that clearly supports one theory over another
Experiments can only be understood in the context of all the others	Isolated experiments make sense
Look at relations	“Prove” a single fact
Make sense of the whole (holism)	Make sense of individual pieces (reductionism)
Look for primary, “Ur-phenomenon” and associated necessary conditions	Everything rests upon a single, often minutely structured phenomenon taken out of the larger context
All other phenomena follow from the primary phenomenon, through a process of complexification and the addition of new conditions (facts ‘fall out’ of the context)	Experiments are used to “plug holes” in existing theory, not to explain related phenomena (the context is created from the facts as necessary)
Good for situations with little previous conceptual framework (metaphor: site-assessment)	Good for situations where there is a lot of prior theory that is already accepted (metaphor: brick-laying)
Includes the observer as a necessarily important part of the whole phenomenon (the subject is included)	Abstracts the observer from the phenomenon in order to isolate as many variables as possible (the object is primary)
Requires exact feelings	Requires exact thinking
Insights reflect inner activity	Insights reflect outer activity
Answers generate questions	Questions generate answers
Synthetic	Analytic