The Logic of Trans-Faith Prehension

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Logic is the Science of Sciences and the Art of Arts according to John Duns Scotus the great medieval logician. He might have added in the same vein that logic is God of God echoing from his namesake the fourth evangelist's καί ὁ λόγος ἥν πρός τόν Θεόν or in the words of the hymn-writer of Adeste Fidelis ' God of very God'. This λόγος goes far beyond the logic of Alfred North Whitehead's early period carefully worked out with the Third Earl Russell in their *Principia Mathematica* as a development of Gottlob Frege's *Begriffsschrift*.

Although he showed their logic to be consistent for modelling in first order predicate calculus, nevertheless Kurt Gödel proved by his famous theorems that it was undecidable both in intension and extension where it was derived from axioms on number or sets. Clearly both Whitehead and Russell turned their backs on this logic possibly from the experience of writing the *Principia*. That seems to have led Whitehead to espouse the cause of *PROCESS* with its parallel development from the time of Heraclites to the work of their contemporary Henri Bergson.

Although Whitehead therefore devoted his later period to a full philosophy of process and reality, he did not unfortunately at that time have the mathematical tools outside of axioms and sets to work out the formal logic. It is only with the development of category theory in the last half of the twentieth century that it has become possible to represent formally fundamental components of his process theory such as prehension. This is to be found in the universal metaphysical concept of adjointness as represented in the diagram below. The free functor (F) is left adjoint to its right adjoint underlying functor (G) as a pair of contravariant functors between the categories Left (L) and Right (R) written as F ⊣ G. Given any two out of the four F, G, L and R, the other two are uniquely defined.

In the Port-Royal logic the Left Category represents an intension and the Right Category any of its extensions. Thus according to the theological context of John Duns Scotus, the Left is the divine Godhead and the right category is the contingent character of God namely the World as created. The Free functor (F) is then the free will in which we participate and the underlying functor (G) provides the corresponding laws as a result, whether moral or physical. The Right Category is one of equivalent classes. There may therefore be many faiths (extension) but only one eternal truth (intension). Trans-faith intercourse then becomes a matter of prehension in the sense of Whitehead between various extensions.