The Processes & Productions of Abstraction.

Two constructs of Epistemology have proved crucial in Mankind's quest to understand Reality, and, indeed, *himself*!
They are **Abstraction** and **Plurality**!
Both have enabled him to start to analyse his World, and commence the endless stream of processes of objectively seeking *causes*, and thereby achieving some improving measure of understanding.

Plurality assumes that the entire World is analysable into, and indeed composed of, **Wholes** and their constituent **Parts**, and the repetition of this process level after level all the way down to some final and immutable basic-elements.
Abstraction is to do with the extraction of a series of general forms from a host of particulars.

But, of course, such one-liner definitions are useless by themselves. All they really do is focus our attention on what must be studied in detail, not only to begin the process of tackling the World around us, but also realising our place within it, and our possible interactions too, but finally, and most crucially in sharpening our Tools of Thought.

Though I did not start from there, it finally became clear that the processes stemming from these two basic "constructs" must be very carefully studied, and the first, fruitful attempt was with Abstraction.
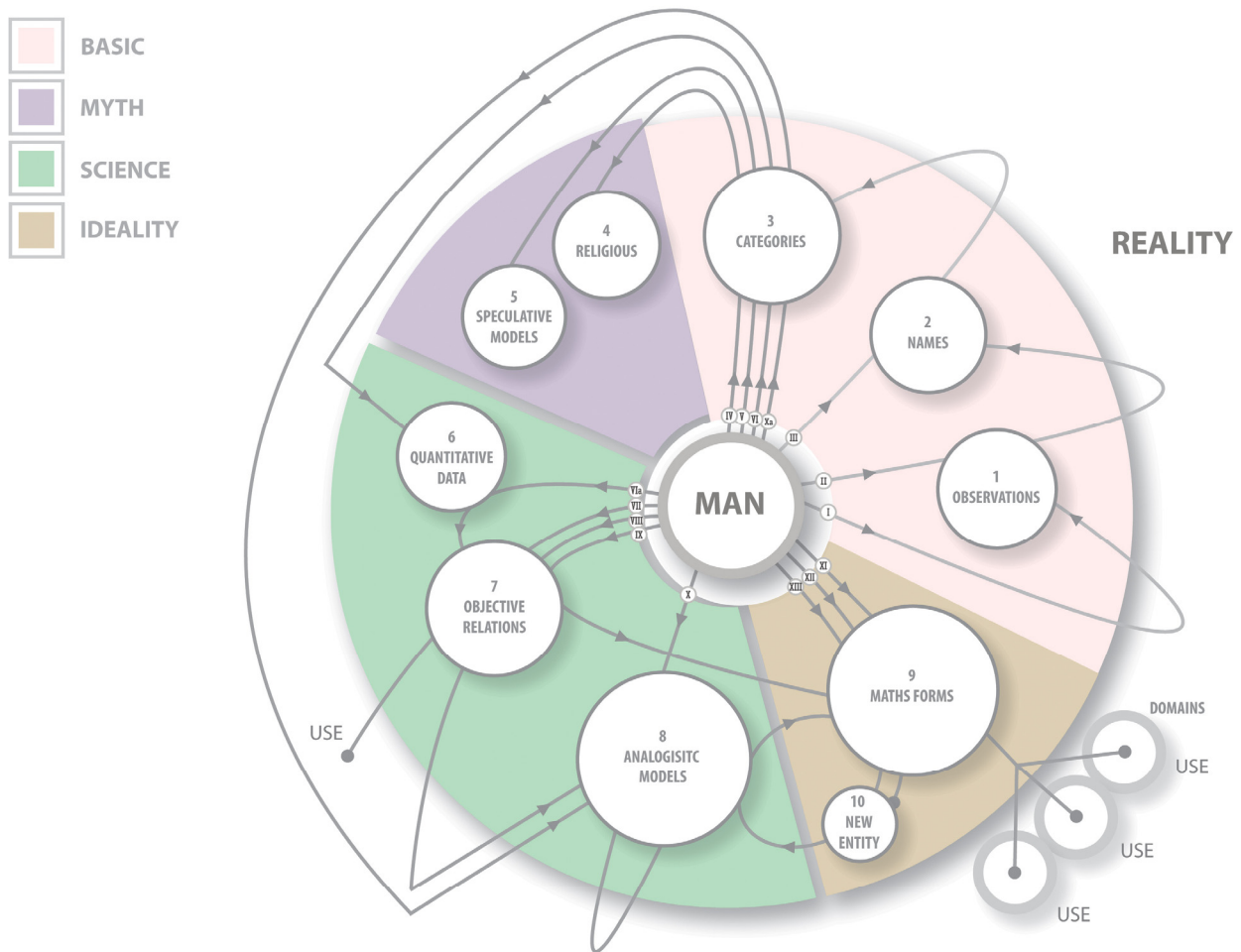
The version of the diagram that is shown here did not finally reach the state you see until about four years ago, but it has ever since allowed me to pursue all other studies from an objective standpoint.
It is, of course, by no means the last word on this area, but it has most certainly been for me the first and dependable one.

To trace the increasingly important sub-processes involved in Mankind's abstractions, we must start at **Process I** (observing Reality) to **Production 1** (observations), as on the diagram, and then continuing anti-clockwise around the circle, with the full list as follows:-

	Process	Production
I	noticing	*observations*
II	naming	*names*
III	categorizing	*categories*
IV	allocating supernatural causes	*religion*
V	devising other causes	*speculative models*
VI	measuring	*quantitative data*
VIa	extracting patterns	*objective relations*
VII	employing the relations	*use*
IX	finding abstract Forms	*Mathematical Forms*

X	the scientific method	*confirming or denying*
Xa	revising categories & models	*improving both*
XI	employing Maths Forms in Domains	*use in Domains*
XII	finding sub forms within Maths Forms	*abstract entities*
XIII	Maths-only Developments	*Maths forms as "models"*

The crucial developments were in defining what I termed as **Ideality**, as a World initially taken from Reality, but also consisting entirely of Purified Forms *alone*.

Another crucial area was in the development of the Scientific Method, which purposely sought the confirmation, extension, and (if necessary) the actual demolition of prior analogistic theories.

Also, the hybrid "models" of modern Sub-Atomic Physics must, in this system, clearly be situated only and entirely *within* Ideality, so that by this they have moved scientific activity away from studying Reality, to instead studying only mathematical Form as the essential "driver" of all Reality.

Also important are the *two* versions of **Use** – that using objective relations *directly* in Reality-as-is, while that using Pure Maths Forms requiring the customisation of carefully and strongly constrained local Domains for both extraction and predictable use.

Clearly though, there is still something missing from this diagram.

Process **VIa** - *Looking for Patterns*, involves Reality-as-is, and was historically a very unreliable both for extracting patterns and their subsequent use via Process **VII**.

Perhaps the most important contribution of Plurality (the **Whole** and the **Part**) was the purposive restriction and maintenance of man-made Domains, in which Patterns were made both unmistakeable to pick out, and reliable in use.

The whole sequence **VI-VIa-VII & VIII** must at some stage be replaced by a similar set Let us call them **VI$_i$-VIa$_i$-VII$_i$ & VIII$_i$** which deal instead ONLY with the constrained Reality of an Ideal Domain, and NOT Reality-as-is.

The believers in Plurality had in the past, and still have, NO difficulty with this, as they are certain that what "Parts" are revealed by such means, exist exactly as such *also* in Reality-as-as.

But they are surely mistaken! They certainly do not exist as exactly the same there!

Reality is NOT **pluralistic** but *holistic*, and, as you may have guessed, this diagram led to an important period of further research into Plurality itself and its major flaws in method and its significant philosophical mistakes too.

> NOTE: Many of these investigations are already scheduled for inclusion in future issues of the SHAPE Journal.

(731 words)