Viewing the world systemically.

What is 'ATIS?

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What is "*ATIS*"?

ATIS, Axiomatic Theory of Intentional Systems, is an *axiomatic formal empirical theory* designed specifically for *intentional systems*. Therefore, to understand what *ATIS* is, we must understand the following:

(1) What is an "*Axiomatic Formal Empirical Theory*"?

(2) What is a "*Theory Model*"?

(3) What is an "*Intentional System*"?

As can be seen, there are numerous questions that must be answered if we are to clearly understand what it is that *ATIS* is and how it is applied to help us answer questions relevant to our lives.

In order to properly develop our understanding, this study will be presented in both a descriptive manner and a very technical manner that relies on various mathematical logics and formalisms not generally found in studies of this type. The reason for this reliance on a logico-mathematical development is so that there will be no confusion as to what is intended and so that the argument for *ATIS* can be clearly followed. While descriptive theories are of value for initial understanding, they also allow for interpretations that are not always consistent, and hence the numerous debates for understanding found in the social sciences.

A more rigorous and formal approach helps to eliminate confusion. And, a logico-mathematical axiomatic approach reduces that confusion even further. In this study, we will use a combination of both the descriptive and the formal so that we will have not only an intuitive understanding of what is intended by way of the descriptive, but also a very precise understanding by way of the formal.

So, let us revisit our questions stated above.

What is an "*Axiomatic Formal Empirical Theory*"?

'Axiomatic' is simply a theory that is founded on axioms rather than description.

'Formal' means that logico-mathematical symbolisms are used.

'Empirical' means that our concern is with what is verifiable by observation or experience.

'Theory' will be discussed in detail below

'Axiomatic formal empirical theory' is an empirical theory that is developed using axioms and logico-mathematical terminology.

What is a "*Theory Model*"?

The answer to this question will require an in-depth study of both '*theory*' and '*model*'.

There is much more that must be discussed before we can have a clear understanding of just how '*theory*' and '*model*' are being used in that there are many interpretations of each. To address these issues, we will refer to a seminal work prepared and published by Elizabeth Steiner on theory construction: *Methodology of Theory Building*.[1] The research provided therein is critical reading for any serious reader of this study. What is presented here will be but a summary of the critical points she presents that are directly relevant to the questions of concern here.

What is '*Theory*'? Steiner states the following:

> 'Theory' is derived from the Greek '*theoria*' which means contemplation or speculation. In a popular sense then one's theory is one's speculation or conjecture about something. … However, such a popular sense does not catch up the technical sense of 'theory' in 'Einstein's theory of relativity', …[2]

In this study, we are concerned only with the technical, or formal, sense of 'theory'.

What is an "*Intentional System*"?

The answer to this question is briefly defined as follows, but is considered more in-depth by the hyperlink for *Dynamic teleological system*.

Definition: An intentional system is defined as a dynamic teleological system, which is defined as the leadership subsystem directed system behavior, such that the leadership subsystem controls the system's behavior in a manner determined by the Leadership subsystem's goals.

That is, an intentional system is defined as a system; such that, there is a leadership subsystem of the system such that the goal-function-process maps the leadership subsystem goals onto the system behavior. See '*Dynamic teleological system*' for an in-depth discussion of this property.

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[1] Steiner, Elizabeth, (1988), *Methodology of Theory Building*, Indiana University, Educology Research Associates, Sydney.
[2] Ibid, p. 4.