DTM and logic

Decolonizing The Mind,
the final frontier of colonialism
with Sandew Hira

Decolonizing The Mind
A guide to decolonial theory and practice

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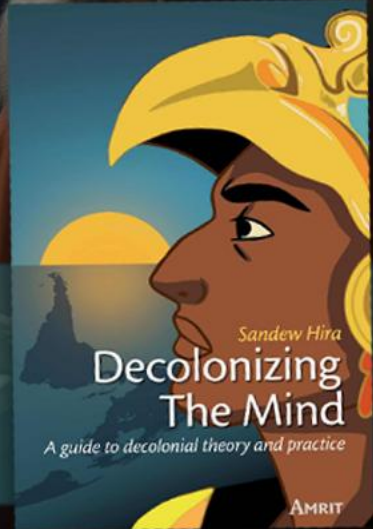
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What is logic?

ChatGPT/Eurocentrism: Logic is the study and application of reasoning. It provides a systematic framework to evaluate whether arguments are valid or invalid, and whether statements are true or false based on a set of rules or principles.

DTM: Logic is a set of rules for reasoning, for building a storyline and arguing a proposition. Logic determines the validity of an argument.

Difference DTM and Eurocentrism

1. Eurocentrism acknowledges only one system of logic as a valid system. DTM acknowledges different system of logic as valid.

2. Eurocentrism regards European logic as universal logic. DTM regards European logic as a particular form of logic.

3. Eurocentrism has one outcome of logic: true or false. DTM has multiple outcome of logic.

4. Eurocentrism removes ethics from logic. DTM included ethics in logic.

Three laws of Aristotle (384 - 322 BCE) logic

1. The law of identity: A equals A. A thing is always equal to or identical with itself. Example: Columbus is Columbus.

2. The law of (non)contradiction: A is not non-A. A thing cannot be different from itself. It is a different way of formulating the first law. Example: Columbus is not a dog.

3. The law of excluded middle: If A equals A, it cannot equal non-A. Everything is and must be either one of two mutually exclusive things. Example: a thing cannot be Columbus and a dog. It is either Columbus or a dog.

A critique of Aristotelian logic

1. The logic has limited application: only in situation of stability.

2. Logic can be limited by the language that is used.

3. The logic assumes that reasoning is objective and devoid from ethical consideration.

Aristotelian logic and the problem of transition

Transition is a particular phase in the transformation from one identity to another.

Example: The transition from life to death. A person is alive or dead. The transition can be abrupt. If his heart stops beating, then he is dead.

But the transition can also be less abrupt. The criterion for life of death can be multiple: heart beat, brain activity. The heart can stop beating, while the brain is still active. With CPR one can get the heart beat back. Was the person dead or alive in that particular phase in which the heart stopped beating? The DTM answer is: he was both dead and alive, according to the criterion you use. It is not universal.

Aristotelian logic and language

The Acholi people from Southern Sudan have embedded in their language another view of the principle of the excluded middle. Victor Ocaya explains: *"This principle says that between a statement and its negation there is no other alternative. The Acholi language, however, has a peculiar way of repeating an adjective in a manner that seems to suggest a third possible alternative between a statement and its negation. For example:*

1 Piny lyet: It is hot. (P)

2 Piny pe lyet: It is not hot. (P)

3 Piny lyet-lyet: It is rather hot. (?)

In (3) the English ''rather'' does not capture the Acholi idea of lyet-lyet, which is somewhere between (1) and (2). Piny lyet-lyet quite unambiguously asserts that it is either ''hot'' nor ''not hot'' and the law of excluded middle rules out just this possibility. This is evidence against the law of excluded middle, from an Acholi standpoint."

Transition in world history

❑ Try to make sense of current world politics with Aristotelian logic: the law of identity. The world as we know is will always exist.

❑ Use DTM logic: world history is a history of changes and transition. The question is: where are we now in this transition and from where does it come and where does it go. It comes from colonialism and it is going to a multipolar and pluriversal world.

❑ The problem: which factors are driving the transition and how will the world look like after the transition: understanding Ukraine, Palestine, BRICS. The law identity does not allow this type of thinking.

The law of identity in the real world

❑ Is China a socialist or capitalist country?

❑ Is Venezuela a socialist or capitalist country?

The solution:

▪ Which criteria do you use?

▪ What language and concepts do you use?

Dialectics and DTM

George Hegel (1770-1831): laws of dialectics provide insights into how continuity and change are related to each other. Friedrich Engels (1820-1895) elaborated on the laws of dialectics based on Hegel. This is a step forward.

1. The transformation of quantity into quality.

2. The change of possibility into inevitability.

3. Evolution through contradictions.

4. The conflict between form and content.

5. Negation of the negation.

The transformation of quantity into quality

The transformation from water into steam by adding quantities of energy. The quality of water as a liquid is changed into the quality of water as a gas by adding quantities of energy.

One person who protests against a government with a gun is an individual protester. Millions of people protesting with guns is a revolution. The quality of the protest changes from a single protest into a revolution.

The change of possibility into inevitability

What seems only a possibility (revolution with one armed person) becomes inevitable (revolution with a million armed people).

From Israel will exist for ever to Israel might not exist in a few years from now.

Evolution through contradictions

The contradiction between here and there (two opposite locations) is solved by motion: you move from A to B.

A feudal society has two opposite classes: the serfs and the nobility. The social struggle between these classes leads to the rise of capitalism, that consists also of two opposing classes (proletariat and bourgeoisie).

The struggle between the opposite classes is the driving force of social evolution.

The conflict between form and content

Columbus at the age of ten is the same person at the age of fifty in terms of what makes him that particular individual: his content. The content might be: his origin (parents, family), his physical outlook in general (shape of his face, color of his skin), his character.

His appearance (form) at the age of ten is different from his appearance at the age of fifty (height, body). The conflict between form and content is resolved through growth and aging. The old form makes way for new ones.

Negation of the negation

A negation is the opposite of a state of being. Take the metamorphosis of a butterfly as an example. The transformation from an egg to a butterfly has four stages. It starts with an egg. To become a larva the egg must be transformed into its opposite: a larva. The larva is the negation of the egg: it is not an egg anymore. It has done away with the egg. It has negated the egg. The butterfly keeps evolving to the third stage: it becomes a pupa, a kind of caterpillar. The final stage is the adult butterfly with wings to fly in the air. The larva is the negation of the egg. The pupa is the negation of the larva. The butterfly is the negation of the pupa. In order to understand evolution, you need to understand that it moves through the negation of the negation and each stage is on a higher level than the previous one.

A DTM critique of Hegelian dialectics

Hegelian dialectics does not take uncertainty into account. Indian Jain logics does exactly that and included uncertainty in its seven value logic.

Jain logic: seven values for the outcome

1. Possible, something is true. Example: Columbus is dead.

2. Possible, something is false. Example: Columbus is not dead.

3. Possible, something is true and false. Example: Columbus is dying: dead and not dead.

4. Possible, something is unassertible. Example: We cannot assert whether Columbus is dead or not dead.

5. Possible, something is true and unassertible. Example: Columbus is dead, but we cannot assert that.

6. Possible, something is false and unassertible. Example: Columbus is not dead, but we cannot assert that.

7. Possible, something is true and false and unassertible. Example: Columbus is dying, but we cannot assert that.

Jain logic in physics: Heisenberg uncertainty principle

In nuclear physics (the field of physics that studies atomic nuclei and their constituents and interactions) the German physicist Werner Heisenberg discovered in 1927, that the more precisely the position of some particle is determined, the less precisely its momentum can be known, and vice versa. Momentum is the product of mass and velocity (kilogram/meters per second). So you either know the position or you know the momentum, but you cannot know both variables at the same time. This is called the Uncertainty Principle of Heisenberg. It is completely in accordance with Jain logic, but contradicts Aristotelian logic and even dialectics.

Jain logic in physics: Schrödinger's cat

Quantum superposition is a fundamental principle of quantum mechanics where a quantum system (atoms, molecules) can exist in multiple states simultaneously until it is observed or measured. This principle defies classical intuition, where objects or systems are thought to exist in one specific state at a given time.

Austrian physicist Erwin Schrödinger (1887 – 1961) thought experiment: Put a cat in a closed steel chamber, wherein the cat's life or death depended on the state of a radioactive atom, whether it had decayed and emitted radiation or not. According to Schrödinger, the Copenhagen interpretation implies that the cat remains both alive and dead until the state has been observed. The Copenhagen interpretation emphasizes the probabilistic nature of quantum mechanics and the central role of measurement in determining outcomes.

Jain logic: uncertainty is part of life. Accept that you can not know everything.

Aristotle syllogism

A syllogism (Greek for conclusion) is a logical rule that consists of three parts: a general proposition, a specific proposition that is linked to the general proposition, and a conclusion that follows from the two propositions. An example of the rule is this:

1. All men are mortal.
2. Socrates is a man.
3. Socrates is mortal.

The critique of Aristotle syllogism

Critique: it has no universal validity. The conclusion logically flows from the first and second proposition. The validity of the conclusion depends on the validity of the propositions. Take this example:

All white men are devils.

Columbus is a white man.

Columbus is a devil.

Chinese syllogism: Mohism 722-481 BCE - 1

It is not the structure of syllogism that determines its validity, but the context of its proposition.

Context 1: What is shared between propositions.

1. Black horses are horses (1).

2. Riding black horses is riding horses (2).

What is shared by both propositions is that in (1) and (2) the essential shared characteristic is "riding". In (1) and (2) "riding" is a shared property of both black horses and riding horses. Therefore, you can use the property of "riding" to connect (1) and (2) in a conclusion. The conclusion is valid.

Chinese syllogism: Mohism 722-481 BCE - 2

Context 2. What is distinct between propositions. For example:

A carriage is wood (1).

Riding a carriage is not riding wood (2).

In this case "riding" is not a shared property of a carriage and wood. It distinguishes the carriage from wood. Therefore, you cannot use the property of "riding" to connect (1) and (2). The conclusion is invalid.

Chinese syllogism: Mohism 722-481 BCE - 3

Context 3. What is both common and distinct. For example:

1. When a horse is required (you want a horse), a yellow horse, or a black one may be brought forward. The color is distinct but not required. The required property is that of a horse. And that is common in both a black and yellow horse.

2. When one requires a white horse, a yellow or a black horse cannot be brought forward. The color is distinct and required. The common property of a horse is not sufficient for the requirement.

The validity of the conclusion depends on the specific requirements. What the Mohists did with the logic of syllogism was to bring the context into play to judge whether the logic provides valid knowledge. When discussing a philosophical problem as syllogism, philosophers would benefit from looking into ideas that have been produced in other civilizations. Too often in Westernized universities this approach is missing, because of the racist roots of Western science.
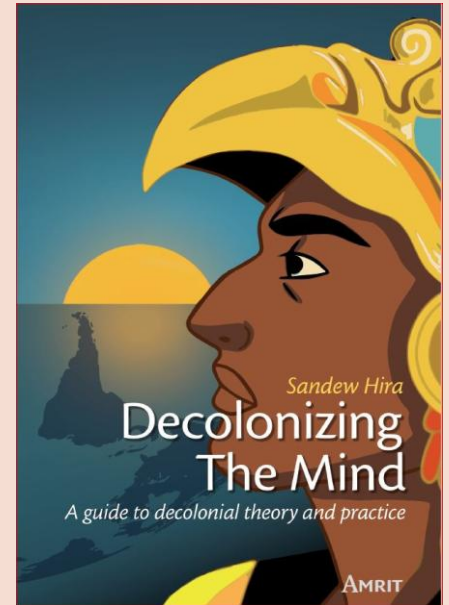
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- ❑ Monday January 20

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