

Dialectic -- A Compact Definition.

by Miguel Detonacciones

Author's Preface. The purpose of Vignette #8 is to present a compact definition of our fundamental term, “dialectic”, plus an “extended” version of that compact definition -- extended into greater explicitude -- as well as to suggest how that definition entails several possible algebraic interpretations.

A Note about the On-Line Availability of Definitions of F.E.D. Technical Terms. Definitions of Encyclopedia Dialectica technical terms and ‘neologia’ are available on-line via the following URLs --

<http://www.dialectics.org/dialectics/Glossary.html>

<https://www.point-of-departure.org/Point-Of-Departure/ClarificationsArchive/ClarificationsArchive.htm>

-- by clicking on the links associated with each such term, listed, alphabetically, on the web-pages linked above.

The Encyclopedia Dialectica special terms most fundamental to this vignette are indicated below, together with links to their E.D. definitions --

«aufheben»

<https://www.point-of-departure.org/Point-Of-Departure/ClarificationsArchive/Aufheben/Aufheben.htm>

http://www.dialectics.org/dialectics/Glossary_files/F.E.D.%20A%20Dialectical%20%27%27Theory%20of%20Everything%27%27.%20Volume%200..%20FOUNDATIONS.%20Edition%201.00.%20first%20published%2010DEC2011.%20Definition.%20AUFHEBEN.%2018AUG2011.%20JPEG.jpg

«arché»

<https://www.point-of-departure.org/Point-Of-Departure/ClarificationsArchive/Arche/Arche.htm>

http://www.dialectics.org/dialectics/Glossary_files/F.E.D.%20A%20Dialectical%20%27%27Theory%20of%20Everything%27%27.%20Volume%200..%20FOUNDATIONS.%20Edition%201.00.%20first%20published%2010DEC2011.%20last%20updated%2017AUG2011.%20Definition.%20ARCHE%27.%20JPEG.jpg

-- definitions resources which will be expanded as the F.E.D. Encyclopedia Project unfolds.

Simplest Definition.

Dialectic is «aufheben».

Extended Definition.

A “dialectic” is *the progression of new ontology* -- of new kinds of “existence”, or of new kinds of “being”, including of new kinds of “physical” being, as in *historical dialectics*, e.g., that of pre-human nature, or of new kinds of “idea” being [e.g., new categories/concepts], as in *systematic dialectics*, or of new kinds of both types of “material” together, as in the [psycho-socio-politico-economic-]*historical dialectic* of human social nature -- that issues from the recurring self-application of an *originating*, or «arché», «aufheben» process/operation/operator, & which forms ever richer new «aufheben» processes/operations/operators with every recurrence, or self-iteration, of such self-application.

Two basic varieties of «aufheben» processes/operations. Using the generic «aufheben» symbol \mathbb{Q}_j to stand for the j th «aufheben» operation in a given ontological progression of «aufheben» operations [i.e., in a given “*dialectic*”], and using \mathbb{Q}_k to stand for the k th «aufheben» operation in that same ontological progression of aufheben operations [i.e., in that same “*dialectic*”] [j, k in $\mathbf{N} \equiv \{1, 2, 3, \dots\}$], we can compactly express these two basic varieties as follows --

1. Production of new “*dialectical antitheses*” by ‘self-«aufheben»’/‘auto-«aufheben»’ processes.

$$\mathbb{Q}_k \left[\left[\mathbb{Q}_j \right] \right], \text{ read-off as “} \mathbb{Q}_k \text{ of } \mathbb{Q}_j \text{”}.$$

2. Production of new [partial or total] “*dialectical syntheses*” by ‘other-«aufheben»’/‘allo-«aufheben»’ processes.

$$\mathbb{Q}_k \left[\left[\mathbb{Q}_j \right] \right], \text{ read-off as “} \mathbb{Q}_k \text{ of } \mathbb{Q}_j \text{”}, \text{ and such that “} \mathbb{Q}_k \not\equiv \mathbb{Q}_j \text{” [} \mathbb{Q}_k \text{ is qualitatively/ontologically unequal to } \mathbb{Q}_j \text{].}$$

An Example of Variety 1. Followed by Variety 2. from they First Triad of ‘The Dialectic of Nature’ per F.E.D.

What better example is there to chose to specifically exemplify the two basic varieties of «aufheben» operations defined, generically, above, than that of the first triad of ‘The Dialectic of Nature’ itself?

For this example, we will “interpret”, “assign”, or “apply” the first *dialectical meta-number*, \mathbb{Q}_1 , to stand for the first ontological category of the self-creation of nature, denoted by \mathbb{Q}_n or, simply, by \mathbb{Q} , that of the ‘pre- \mathbb{Q} nuclear / sub- \mathbb{Q} nuclear’ “particles”, e.g. the quarks, the gluons, the electrons, and other primordial, non-Hadronic fermions, bosons, and leptons. This “act” of interpretation, assignment, or application, we symbolize by: $\mathbb{Q}_n \xrightarrow{\mathbb{Q}_1} \mathbb{Q}_1$.

The “multiplication rule” that configures the *dialectical meta-numbers*’ “*times*” operation, denoted by ‘ \boxtimes ’, to model a *dialectical* «aufheben» operation of ‘meta-monadization’, or ‘meta-individualization’, is the following --

$$\mathbb{Q}_k \left[\left[\mathbb{Q}_j \right] \right] \equiv \text{“} \mathbb{Q}_k \text{ of } \mathbb{Q}_j \text{”} \equiv \mathbb{Q}_k \boxtimes \mathbb{Q}_j \equiv \mathbb{Q}_j \boxplus \mathbb{Q}_k \equiv \mathbb{Q}_{k+j} \text{ and, therefore, in the special case where } j = k \text{ --}$$

$$\mathbb{Q}_k \left[\left[\mathbb{Q}_k \right] \right] \equiv \text{“} \mathbb{Q}_k \text{ of } \mathbb{Q}_k \text{”} \equiv \mathbb{Q}_k \boxtimes \mathbb{Q}_k \equiv \mathbb{Q}_k \boxplus \mathbb{Q}_k \equiv \mathbb{Q}_{k+k} \equiv \mathbb{Q}_k \boxplus \mathbb{Q}_{2k}$$

-- wherein ‘ \boxplus ’ stands for \mathbb{Q} *qualifiers*’ addition. For the “applied” version of \mathbb{Q}_1 , namely \mathbb{Q}_n , this becomes --

$$\mathbb{Q}_n \left[\left[\mathbb{Q}_n \right] \right] = \text{“} \mathbb{Q}_n \text{ of } \mathbb{Q}_n \text{”} = \mathbb{Q}_n \boxtimes \mathbb{Q}_n = \mathbb{Q}_n \boxplus \mathbb{Q}_n = \mathbb{Q}_n \boxplus \mathbb{Q}_s, \text{ the ‘auto-«aufheben»’, of } \mathbb{Q}_n \text{ by } \mathbb{Q}_n$$

-- wherein ‘ \mathbb{Q}_{nn} ’ stands for a new category, of ‘ \mathbb{Q} s of \mathbb{Q} s’, i.e., of ‘meta- \mathbb{Q} s’, each one made up out of a heterogeneous multiplicity of \mathbb{Q} s, and wherein ‘ \mathbb{Q}_s ’ stands for the **2nd-born** cosmological ontological category, that of the ‘pre-atomic / **sub-atomic**’ “particles”, e.g., protons and mesons, which are composites, or ‘meta-particles’, of quarks and gluons, composites that arise out of the self-interaction of \mathbb{Q} , i.e., out of the ‘*intra*-action(s)’ within the cosmological population of \mathbb{Q} s, the interactions of pre- \mathbb{Q} nuclear particles with *other* pre- \mathbb{Q} nuclear “particles” *within* the pre- \mathbb{Q} nuclear population.

Once the ontological population represented by ontological category $\mathbb{Q}_s \xrightarrow{\mathbb{Q}_1} \mathbb{Q}_2$ has come into existence, it can interact with the still-existing population represented by the \mathbb{Q}_n --

$$\mathbb{Q}_s \left[\left[\mathbb{Q}_n \right] \right] = \text{“} \mathbb{Q}_s \text{ of } \mathbb{Q}_n \text{”} = \mathbb{Q}_s \boxtimes \mathbb{Q}_n = \mathbb{Q}_n \boxplus \mathbb{Q}_s = \mathbb{Q}_n \boxplus \mathbb{Q}_u, \text{ the ‘allo-«aufheben»’, of } \mathbb{Q}_n \text{ by } \mathbb{Q}_s$$

-- wherein $\langle \diamond_{sn} \rangle$ stands for a new category, of 'ss of ns', i.e., of 'hybrid-sns', combining one or more n unit and s unit in a single, new kind of unit, forming a new kind of population of such hybrid units, and a new kind of ontological category for such units, and wherein $\langle \diamond_u \rangle \rightarrow \langle \diamond_3 \rangle$ stands for the **3rd-born** cosmological ontological category, that of 'sub-nuclear/sub-atomic' "particles" *syntheses*, which come in several «*species*», including that of the neutrons [1-proton/1-electron hybrid units], that of the Hydrogen atoms [also 1-proton/1-electron hybrid units], and that of, e.g., neutron star bulk neutronium [many-proton/many-electron hybrid units].

In this '*dialectical meta-model*', the generic *dialectical-arithmetical* process --

$$\langle \langle \diamond_{l1} \rangle \rangle^3 = \langle \langle \diamond_{l1} \rangle \rangle \langle \langle \diamond_{l1} \rangle \rangle \langle \langle \diamond_{l1} \rangle \rangle = \langle \langle \diamond_{l1} \rangle \diamond_{l2} \rangle \langle \langle \diamond_{l1} \rangle \rangle = \langle \diamond_{l1} \rangle \diamond_{l2} \diamond_{l3}$$

-- is used to describe a *specific dialectical* process, the nascent-cosmos '*negation of the negation*' process, a process of '*auto-«aufheben»*' followed by '*allo-«aufheben»*', and representable, '*dialectical-algebraically*', as --

$$\langle \langle \diamond_n \rangle \rangle^3 = \langle \langle \diamond_n \rangle \rangle \langle \langle \diamond_n \rangle \rangle \langle \langle \diamond_n \rangle \rangle = \langle \langle \diamond_n \rangle \diamond_s \rangle \langle \langle \diamond_n \rangle \rangle = \langle \diamond_n \rangle \diamond_s \diamond_u$$

-- describing the first three ontological categories of the history of nature, and, implicitly, the *dialectical*, or «*aufheben*», *processes* of the genesis of the **2nd-born** and **3rd-born** ontological categories from their "1st-born" $\langle \diamond_n \rangle$ «*arché*».

This '*dialectical meta-model*' can also be represented diagrammatically, as follows --

Example: 1st Triad, Historical Dialectic of Natural History;
 '«*arché*»-category'; first 'meta-category'; first [full] 'uni-category'

