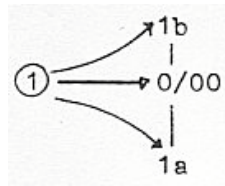# Velocity

1. Velocity as d-degree steps:

Velocity is, according to hypothetical viewpoints in this model, identified with the dimension degree step $1 \rightarrow 0/00$, a polarisation of a path into the physical quantities or concepts Distance / Time.

Hence, Velocity, will be defined as a translation of one d-degree into motion, the steps (or quantum jumps) between d-degrees as changes of motion.

2. Velocity as a quotient between forces:

Velocity, as a quotient between Distance and Time as the two poles of Motion, becomes a relation between a binding force and a polarising force, when these primarily are identified with the 0-pole and the 00-pole respectively.

$$1/0 = 00 \text{ (polarising force)}$$

$1 \text{ ---/---> } 0/00$

$$1/00 = 0 \text{ (binding force)}$$

3. Five quantum steps as a series of derivations ?

- With respect to what ? To Time or to Distance ?

a) with respect to Time, v = velocity, a = acceleration:

$$5 \longrightarrow 4 \longrightarrow 3 \longrightarrow 2 \longrightarrow 1 \longrightarrow 0/00$$
$$v \longrightarrow a \longrightarrow m/s^3 \longrightarrow m/s^4 \longrightarrow m/s^5$$

or
$$f \times a \longrightarrow f^2 \times a \longrightarrow f^3 \times a$$

If Mass in d-degree 3 then, according to the proposals on other pages, is coupled with negative (inward) acceleration,

Charge, assumed as property in in d-degree 2, (as m/s^3) will not be connected with only negative velocity but with frequency times negative acceleration.

If we take it the other way around :

$$5 \longrightarrow 4 \longrightarrow 3 \longrightarrow 2 \longrightarrow 1 \longrightarrow 0/00$$
$$m/s^5 \longleftarrow m/s^4 \longleftarrow m/s^3 \longleftarrow a \longleftarrow v$$

or
$$f^3 \times a \longrightarrow f^2 \times a \longrightarrow f \times a$$

This seems more in accordance with the high frequencies of matter as de Broglie waves. But of course it does not agree with the comments on Einstein's equation $E = mc^2$ on the page about Time, where we have velocity squared. For getting it to agree, we have to interpret "Mass" as $- f^2 /m = - 1/(s^2 \times m)$.

b) Deriving with respect to Distance, m = meter ? :

$$5 \longrightarrow 4 \longrightarrow 3 \longrightarrow 2 \longrightarrow 1 \longrightarrow 0/00$$
$$m^4/s — m^3/s — m^2/s — \ m/s = v$$

or in the other direction, which seems to be a very silly result:

$$5 \longrightarrow 4 \longrightarrow 3 \longrightarrow 2 \longrightarrow 1 \longrightarrow 0/00$$
$$m/s \quad 1/s \quad 1/sxm^{-1} \ 1/sxm^{-2} \ 1/sxm^{-3}$$

We leave the question about derivations here to the professional physicists and mathematicians.

In Einstein's general relativity theory there is a formula about tensors (as secondary vectors) which include a constant

$$k = - [8 \ \pi \ x \ G)) \ / \ c^4$$

Reading this in a simpleminded way, we have:

1). a negative sign which we can attribute to negative values for c, the velocity of light,
2) 8 π which indicates 4 turns, making a complicated kind of circular structure,
3) velocity c squared 2 times as denominator, inverted, "underground".

Perhaps we should derive:
$- 1/c^4 \longleftarrow -1/c^3 \longleftarrow -1/c^2 \longleftarrow 1/-c$,
to get some similarity with the views on Mass and Charge in the model here, Mass connected with negative (and inverted?) acceleration and Charge connected with negative (and inverted ?) velocity.

(Cf. the chapter "Physical quantities" in original texts, Physics I b, and the trials there to translate different quantities into concepts of only meter and seconds.)

4. Positive and negative velocity:
The relation between positive and negative velocity is reasonably coupled with the complementary energy forms +/-E. and directions inwards / outwards.

If $\sqrt{-1}$ for Time as one-way directed gives the denominator of velocity, D/T, the velocity gets complex. Equations with complex numbers give both real and imaginary roots. The imaginary roots should be found inwards the dimension chain, inwards in the matter.

A general assumption here is that when an a formula gives imaginary roots, it should indicate that the analysis ought to be moved to another level, underlying (or eventually superposed?), or to another dimensional degree, in order to get real values for the imaginary quantities or qualities.

[Number 10, the "E-number" as sum of poles in d-degree 4, with index as time squared, -1, gives the number 0,1. Multiplied with dimension chains as products and squared in 2 steps gives:

0, 1 x 5x4x3x2x1$\rightarrow$ x^2 $\rightarrow$ x5x4x3x2x1 $\rightarrow$ x^2,
= $[(10^{-1} \ x \ 5!)^2 \ x \ 5!]^2$ =
= 2,985984 x 10^8 = ca. light velocity in meter /seconds (2,997925 x 10^8, year 1973).].