



Opinions on matter, movement, space, time and dimension

Dedicated to my mother, Elisabeth, to 62nd birthday

1) In order to anticipate it immediately and to explain the purpose of this text, the human observer, as well as the interested person in general himself, places much of effort on his observations and then on the description methods for the observations made (whether by means of mathematics exactly or with textual means). This is done in order to describe the conditions of the environment or space and to describe events within the observable space (sometimes the description is also attempted as a prediction on what would be outside the observable space). Our interest and knowledge aims in principle to an ever more close as possible approach to the absolute understanding and to an exact description. The creation and the establishment of descriptions of the functioning of the observed by man, of course, presupposes the observability at all. Only if something can be observed, it is in the narrower sense an observation, which can be reproduced in a description of its nature with its known conditions. If something is not observable for us, it can only be assumed or understood as necessarily existing, by the already unsuccessful observer with the logic assumptions he has present in him. Any absolute evidence of existence is only provided by observation or measurement. However, any description could only really be accepted as absolute if it could be fully congruent with the entirety of all possible observations and also with all conditions, or even unobservable conditions. In this text, the main focus should be on the boundaries of the possibilities for descriptions, in consequence of the existing limits of observability, and then a no less great attempt will be started, to point on the limits of our understanding in this regard.

2) A grain of sand floating in the sea – possibility of a subjective conclusion – how close is it to the finiteness of the observable space?

From the point of view of the grain, which drifts in the sea, can a conclusion be made of the existence or non-existence of a possibility of observation depending on the grain's place, on what will be found on the horizon of the sea? The grain of sand in the middle and depth of the sea will not have the chance to come into contact or sight with the coast.



We can ask the same question for our position. Where, therefore, our immediate environment would be to be localized within the total space, if one is at least highly unlikely to assume that we are exactly in the centre of the space? And thus, are the distances, for the case we assume a finiteness or horizon of the known matter, in different directions, perhaps in some individual directions shorter than for others?

3) The location – in terms of whether it is possible to observe the next dimension? – Generally not possible, only in border regions, if the concerned location is thus exposed in this sense against the majority of the positions – finiteness of the observable space.

If we assume the case, that we would have managed, under whatever technical support, a possibility to observe over a multiple bigger distance, which direction of observation would be the most promising? Do we have any means of determining this, so that it would give us an answer or at least an increased likelihood of answering this question? Could it be assumed, for example, that the total space would not be geometrically linear, but rather irregularly formed and therefore there would actually be differences in the distances depending on the selected direction?

4) Question about the infinity of space – could be also answered with no – the matter can be understood to be finite, but then goes into another type, which is subject to other characteristics and other conditions – for example in terms of time – (changed time - changed distance – changed size).

So if the time would be different, could such a different type of space, for example, also be seen in its distances as enormously larger with a multiple of the distances to reach the point of start of another type of space and with different conditions of matter?

5) Size/dimension – could we interpret, in relative terms, also the velocity of the light according to the time term of the respective types of matter/dimension (even if the velocity of the light basically is to be considered absolute constant)? - the longitude of a route/distance passed in a given period, would therefore be in a different time scale/term - for example assuming an extended time due to higher matter density/frequency - different than in the established scale of time.



6) Constant movement - in conjunction with probability of location

The understanding of movement is depending from observation and position. However, "standstill" is only possible for a very short observation time or a specific position in the proportion to another object in a larger understanding. Can it be concluded that therefore an absolute standstill, considered in a larger sense is not possible at all?

7) Also objects and their steady movement according to observed probability are subject to an movement-effect, and they are (partially) subject and also object of the movement-effect equally by both, therefore a body-shape is also exposed and can be according to strict mathematical term never be absolutely round (e.g. ball form) – Even mathematics describes the number pi as not absolute – you take the example when several billiard balls, one of the previous ones, are kicked one to another, and in any case a blurring occurs within the still so detailed mathematical calculation of the course of the path of the last ball.

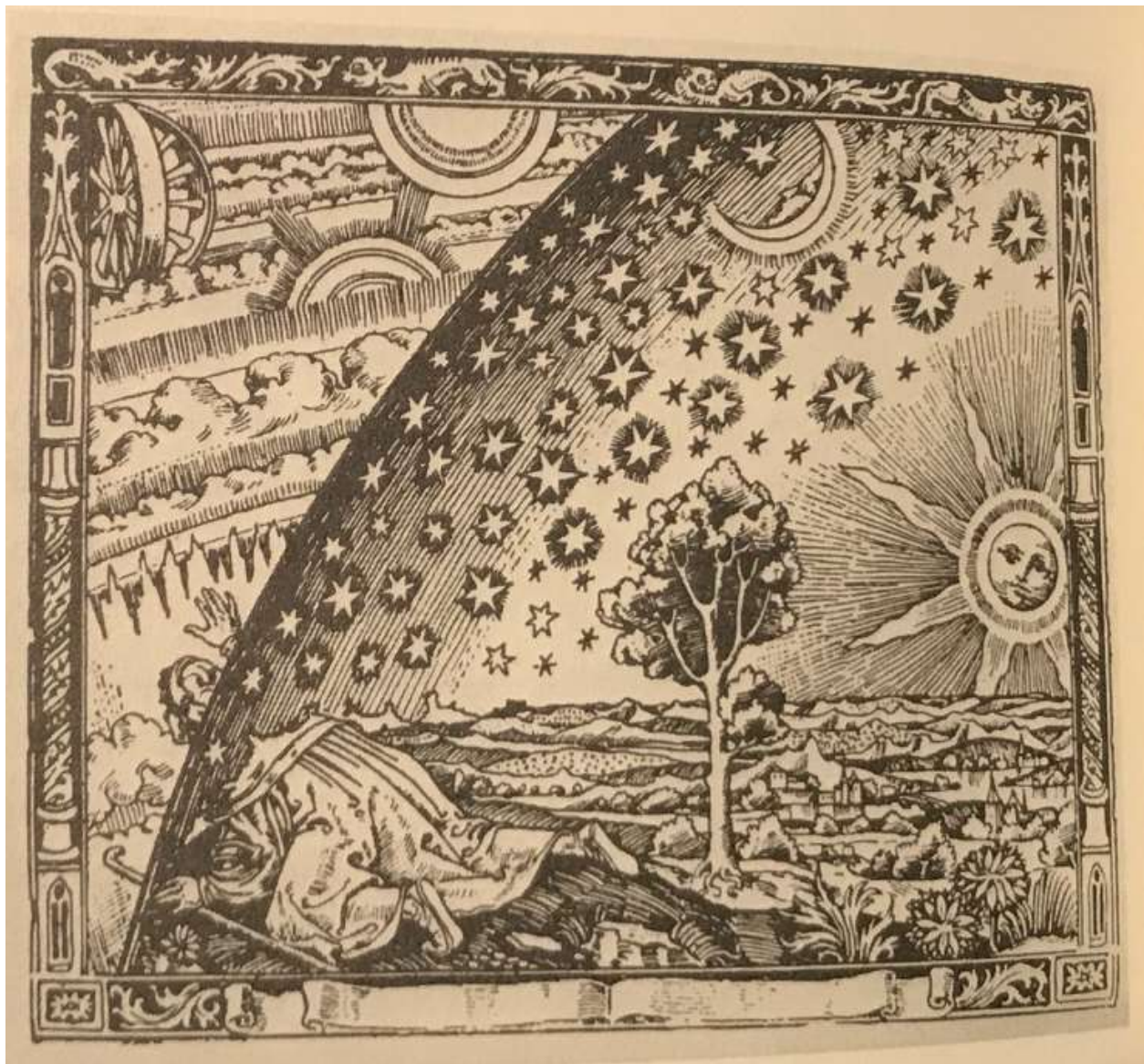
8) In consequence of the idea of size/dimension: There are trails of bodies/objects and certain forms of movement as a result, are measured according to a generally still very un-determined scale. The movements, under the (negligible) deviations of the trails, are therefore from our point of view approximately perfect or absolute, and the deviation is respectively minimal – formula descriptions are in our view correct – but if you enlarge the dimension/size, and also if time terms are extended for a multiple, these clearly described ideal movements will not remain, but it must be employed a much different and more complex movement description, which will grasp these additional trails in the object's directions and movements. In the time span visible for us, the form of movement may still remain approximately correct, but over that limits this may be different.

9) Today's means – with these at the moment it is not possible to observe beyond the dimension boundaries; the argument for the non-reaching of the dimension limit is used for the confirmation of the assumption of an infinite space. – Mathematics bases on observation and formulation/description – but still no observation is possible outside these boundaries and limits



and therefore the corresponding mathematical representation is pushed to its limits. Extended and improved observation possibilities open new perspectives in this regard.

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Symbolic illustration of the overcoming of the medieval world view; from: Camille Flammarion, *L'Atmosphere, Meterologie populaire*, Paris 1888.