Space, Time and Force

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Orientation

Movement as such is something that is strictly speaking not a noun, but a verb only. This means that moving is the primary quality, the first thing that is observed. Hence our definitions of space and time always involve moving: how far movement occurs in a particular time (definition of space), or how many rotations are generated by a moving hand of the clock (definition of space). Definition of space involves time, and definition of time involves space! Hence it is a good idea to start with the primary quality called movement or motion, and develop our view from there.

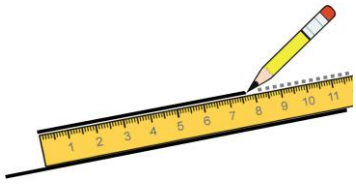
Where there is movement, there also exists the possibility of restriction of movement. This alteration of movement is called *force* or even *pressure*. Just as the terrain influences how water flows downhill, the force or pressure configuration of the world modifies motion.

When one thrusts the hand or leg outward, all three elements come into play together: a certain amount of space is traversed in a certain time, and the movement is preceded by an inner force or pressure. Space, time and force all come together in *action* or *activity*.

Action not only contains space, time and forces, but there is another aspect that is closely interwoven with it. That aspect is about how many different ways there exist for the activity to express itself: the *dimensions*. Activity may occur in one, two or even three dimensions, and this seems to be an intrinsic part of our reality. It can now be examined whether the three qualitative aspects of activity – space, time and force – have anything to do with dimensions. This means that not only their quality, but their experience also has to be understood. For example, how does one experience pressure or force? Observing the inner balance of the body, it is seen that one has to maintain balance both forward and sideways. In addition, there is always a force between the feet and the ground, in the top-bottom direction. This is also a balance, without which one would either sink into the ground or float away upwards. Hence, the inner conditions of balance indicate that force is three-dimensional in nature.

By contrast, the experience of space is distinctly one dimensional, as exemplified by the ruler or yardstick. Even though it would appear that space is also three dimensional like force, a close examination will show that we are used to combining the two elements in daily life, so naturally the qualities of force and space overlap a lot. This makes it *appear* as if the three-dimensionality can be attributed to space. However, when we measure the volume of something, the one dimensionality is apparent, for example when the scale on a measuring cup is observed, or when the radius of a sphere is measured. The solidity of a stone can be felt as being three-dimensional at once, but measuring the volume of a stone involves three independent *linear* measurements with a yardstick, showing that each actual measurement is still one dimensional. Probably the clearest indication of one-dimensionality of space is the fact that light, the primary carrier of a clear experience of space, has a "line of sight" and is observed in essence as a linear beam.

Force



Space

Time

The experience of time, however, is midway between the two. The crucial element in measuring time is not the line, nor a volume, but a *curve*: a 2 dimensional entity. The "Wheel of Time" is a common expression. Whether it is the swing of a pendulum or the rotation of a clock-hand, the position of the sun on the ecliptic plane in the sky or the vibration of a drum, the planar nature of time is clearly indicated by how it is experienced. Thus, to summarize, the essential elements of active experience can be indicated as:

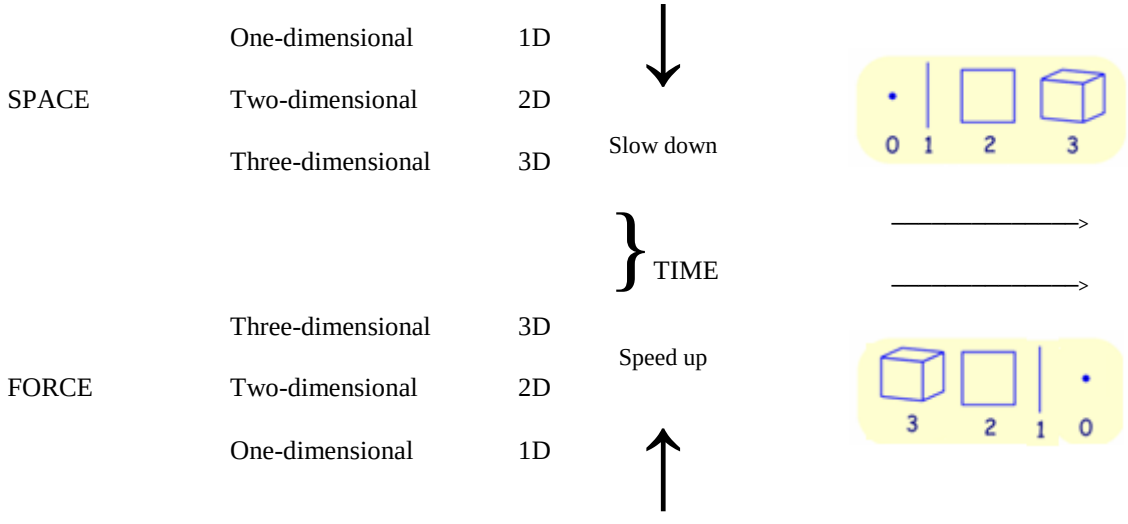
Space	One-dimensional	1D	} Movement	
Time	Two-dimensional	2D		} Activity
Force	Three-dimensional	3D	} Resistance	

Of course, this does not mean that space or force cannot be two dimensional or that time is strictly two dimensional. The idea here is to identify and isolate the essence of the experience, so that now the combinations can make sense. It is clear that space can also be experienced as a plane, or a volume, even though its essential element is a line. Similarly, force can also become planar or linear, as it does on a stretched trampoline or in a pulled rope. Time has a linear flow from past to future, called the "flow of time", and it also has a 3D landscape, most often experienced either in dreams or through inner perception. All combinations are possible.

Combinations

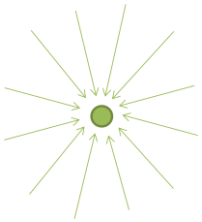
Let us now focus on the combinations themselves, and observe how the transitions among the different aspects happen. Consider a big rock balanced on a smaller one. It is quite predictable that over a very long period of time, maybe over several thousands of years, the big rock will squash the little rock a tiny bit, making it spread out some more in two dimensions. A similar process can be accomplished by squashing a piece of clay between the finger and thumb, which spreads it in the other two directions. This shows that action of time in forces tends to reduce the dimension from 3D to 2D, even though the forces are in equilibrium! Hence, compressing the time period of action of forces removes a dimension. Compression in two directions will generate a tubular or linear structure, while compressing in all directions generates a very hard concentrated substance. Thus time acts very slowly through forces, but when accelerated alters the dimensions.

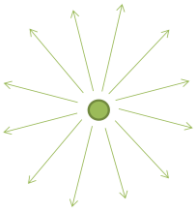
On the contrary, changes in space are so quickly observed that they appear to involve no time at all. Due to the nature of light-speed, almost as soon as a candle is lit, we see a bright spot in space. All of geometry deals with space alone, with time hardly ever included. What happens when time is included and the changes are slow enough to notice? Consider a ruler, that is being moved perpendicular to its length. It generates a 2D plane. Similarly a sheet of paper moved in the direction of its flat surface generates a 3D volume. Time is implicitly involved when transitioning from one dimension to the higher. Hence, the action of time on forces has to be sped up to be observable, and its effect is to reduce dimensions, while the action of time on space has to be slowed down to be observable, and its effect is to increase dimensions.



Continuing from here, it is easily seen that time is the mediator, that relates forces and space. Effect of time on the forces is such that they neutralize each other to dust. Effect of time on space is to expand it from a line to a volume. However, what is the action of time on space when the 3D limit is reached? Similarly, what is the effect of time on the forces when the 0 D limit is reached?

Let us first examine what happens to space. Space and time are perceived through movement or speed, which is the ratio of space to time. As space reaches its limit of three dimensions, what other variation is possible? The only variation possible is in time. This means that even if space "runs out", time can still increase independently. This means the *denominator* of the fraction **v = s/t** continues to increase, making the velocity "v" smaller. In other words, *contraction begins*. After reaching its limit of three dimensions, any further variation in time hence leads to contraction. Now, consider the similar process in the forces, as the forces reach their limit by losing all dimensions and getting reduced to a point. What happens to the forces now? Once more, the forces turn inside out, and now begin increasing dimensions again. In other words, the force of compression now becomes the force of expansion. When these two process get interlinked through time, we have the something arising that is contracted to a point in space and has a tendency to expand i.e. *we have living systems*. The contracted point is the seed, while the expanding force is the force of growth, which can break through the hardest rock.

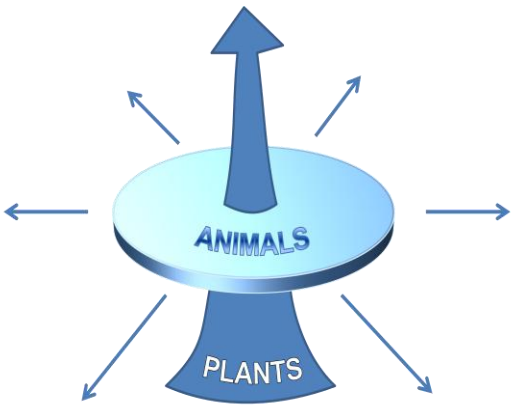




Space Contraction: Seed LIFE Force Expansion: Growth

Thus it is necessary to go beyond the conventional three dimensions in order to understand living beings. Space becomes focused, force becomes inward growth. Still, in plants, the growth force is predominantly in the vertical (top-bottom) direction. It is hence an internal force that is one-dimensional (1D). When another limit of size is reached in this direction, the next combination is a 2D plane, which means inner motive force can act in two dimensions. This means special organisms are involved who emancipate themselves from the vertical direction, and instead move on the horizontal plane: *animals*. We now have planar inner movement, which the animals display both in their daily life, hunt for food and their mass migrations.

The last possibility, at least in the majority human experience, is inner freedom of movement in all three dimensions (3D). In addition to the two dimensional freedom of animals, the motive force in the third direction is regained: so a *human being* walks upright, in the vertical direction. Thus the human combines aspects of both plants and animals in his/her inner forces, and adds to it the unique capacities of inner growth. It is in this realm that these concepts can be re-applied.

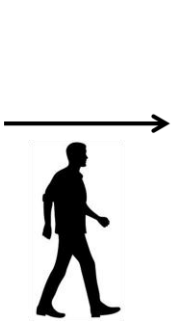


Human Applications

In human beings, the linear and planar movements occur on a different scale than in animals. For example, in humans, the backward-to-forward direction is not simply related to food or survival instinct. A deliberate movement in the forward direction is closely linked to *thinking*. All phrases in the language, such as "following a train of thought", "continuing on the same thread", "taking the idea forward", "staying on track" and "clearing the way" indicate the linear purposeful movement taken in the forward direction, in order to achieve some thought-out objective. Successes in *economy and science* are mainly the direct result of perfecting this skill of developing a clear line of thought. Hence, in addition to the actual meditation and study, a steady and brisk walk with minimal sideways movement also indirectly supports focused thinking.

In animals, the planar movement is determined purely by territorial migration or grazing needs to support survival. In humans, it is transformed into *social skills* as they relate to one another. The sweeping gesture we all make with our arms to include everything around us, as if to embrace everything, shows the meaning this plane has for us in the *feeling* domain. The abilities to feel our position with respect to our peers as well as our artistic expressions via painting are both dependent on the plane. It is no wonder that a variety of feelings are immediately evoked upon coming upon a vast expanse of land or sea, nor is it a coincidence that one uses the phrase "field of interest". Human feeling hence has a close relation to the plane.

The vertical movement in plants is once again closely tied to nourishment. They are directed to the sun on the one hand and the earth on the other, as shoot and root move in opposite directions. This vertical direction in humans once more has a different significance, as it is related to *inner meaning* or *morality*. All spiritual strivings and religious convictions are expressed in this predominant direction, where one seeks not simply to "get ahead" but to "strive for higher things". This striving is expressed through the human *will* that fills and completes the actions in all dimensions. One speaks of a "well-grounded" or "down-to-earth" person whose thoughts and feelings are tempered by a steady will power, while those who have let their feeling life get away with them without a proper connection to their thought or will power are said to have their "heads in the clouds". These expressions are not arbitrary, but they express realities as best as they can. Hence, bringing an idea "down" to the earth is intimately tied to will-power by bringing in the third dimension again. Willing hence has an overall three-dimensional effect, ("moving mountains") when aligned well, and completes the expression of all three orientations.

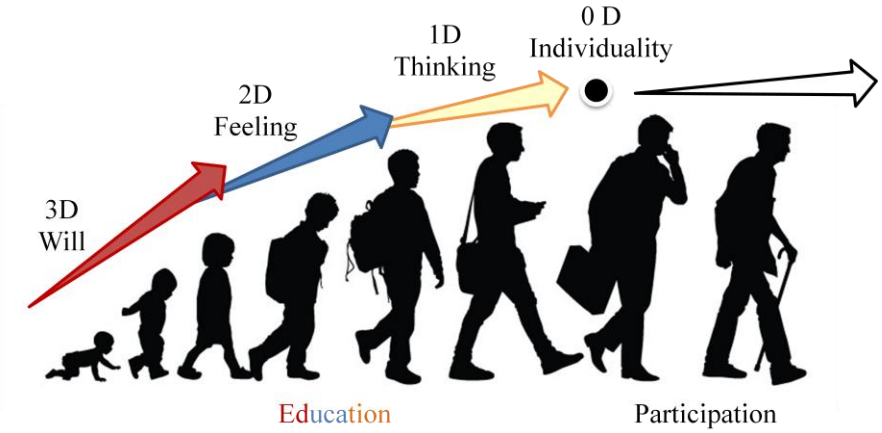


Thinking (1D)

Feeling (2D)

Willing (3D)

Just as the expression of human capacities were shown in 1D, 2D and 3D, to correspond to thinking, feeling and willing, the inculcation or *education* of those same capacities happens mainly in the opposite direction. One has to start with educating the will, and move on to the feeling and thinking. The very first period of our lives is closely related to three-dimensional orientation – the transition from being a baby who rolls around and crawls to being a kid who can stand and walk is rightly greeted with cheers. In addition to games, exercises and play time, all development of physical skills in this period helps generate a strong will, and stories work very well to show the moral aspects of life (the vertical orientation). Following this is a period of feeling, where the relations to animals take on a special importance, as does the feeling for peers and social adjustment which peaks during the teenage years. Artistic expression by both painting and writing are crucial at this point, as are heroic and exemplary role models. Meanwhile, the desire to connect all the happenings of the world logically and systematically by *thought* grows, and is developed further by mathematical, scientific and geographic training. The late teens and early adulthood indicate this period, where one searches for a path. Once a path is found, the desire to find the *point* of it all, or to make a mark, shows the entry to adulthood. Thus the educational process proceeds from 3D, to a plane, to a line, and then the point. At this time, if all goes well, the person becomes "centered" and can begin active participation in life.



Likewise, the ability to participate also requires the corresponding capacities to be called up. For example, to study the properties of space, thinking is the best guide, as shown in the mathematical and geometrical development of human thinking, as well as its application in modern science, technology and logistics. When coming to the development of understanding time, particularly with respect the understanding our past and preparing for the social future, the feelings have their rightful role to play, and they enhance and supplement logical thought in those respects. The feeling of interest in a topic makes time pass very quickly, while a boring topic takes forever – hence even our very perception of time is closely bound up with feeling. Thinking apprehends space, feeling experience time. And as expected, tackling the forces of the world in any domain requires will-power, as it is only when opposed by the will of the hand that the weight of a rock can be felt. Getting an electric shock paralyzes the will, while an inner inspiration fires up the will. The forces are hence grasped by the will.

Space, time and forces are hence properly comprehended by utilizing thinking, feeling and willing respectively. The capacity to develop these skills is centered on the individual human being, who serves as the focus of this entire process. Although in terms of dimensions, the "point of consciousness" is just that – a point – it is all important as the individuality can control all the aspects. An excess in willing can lead to waste of adult efforts on childish ideals such as professional games and sports (as opposed to simple games and sports of childhood). An excess of feeling can generate lack of attention and can lead to fantasies or sentimentality, or even in self absorption. Finally, an excess of one-dimensional thinking can easily lead to rigidity and an attempt to treat the whole world as a series of linear and logistic relations. This "point" is hence of primary importance, and is also the whole point of this essay.

Interrelationships

Individual	Point	Zero-dimension 0D
Thinking	Space	One-dimension 1D
Feeling	*Time*	*Two-dimension 2D*
Willing	**Force**	**Three-dimension 3D**