

Theory of the essence of science

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If we want to explore the essence of science, we must first establish the interdependencies between the various fields of knowledge. The processes by which some areas of learning emerged from their predecessors, along with the interdependencies between them, are the basis for understanding each phenomenon.

The basis for all science is formal logic, with all other fields derived from it, including the most important formal science, which is mathematics.

Mathematics creates the models and systems accessible through logic. It determines their characteristics and examines their properties. In the next phase it divides it into deterministic and probabilistic fields. Mathematical determinism¹ outlines physics and chemistry, that is, the science of how the universe is constructed.

Physics deals with the construction of the universe at the level of the greatest generality, and also deals with the basic phenomena and processes associated with the operation of the universe's elemental components i.e. energy and matter².

Chemistry, meanwhile, is the science dealing with all the complex relationships of matter and energy, as well as the influence of these complex elements on each other. It does so until it reaches the most complex relationship – the first life form. At this point, another field of science starts – biology – which is, generally speaking, the science of the existence and operation of all life forms³. This is also the point where determinism ends and probability begins. We leave the area of science which is unambiguous and which we can describe using the mathematics of patterns and formulas, and enter into an area of mathematics which we describe using probabilistic scenarios. This is where our cognition ends at the level of cer-

¹ Theory of determinism of the universe

² Theory of the creation and operation of the universe

³ Theory on the essence of life

tainty and begins at the level of probability. From this moment onwards, we can only say that something may happen with more or less certainty.

Biology describes what life itself is, what its primary features are and what its evolution looks like as it attains increasingly complex forms⁴. It deals with life cycle processes from birth to death and attempts to explain all the relationships between these life processes, as well as the impact of physics and chemistry on them. At the moment when it begins to deal with the most complicated process of life, the activity of consciousness, its explanations become increasingly imperfect. Consciousness is the most complex issue in the universe. When we approach it scientifically, an illogical element of probability appears. Conscious life, i.e. life that makes conscious choices in its own behaviour, is essentially indescribable. Things become even more difficult when self-awareness and intelligence arise, as then we are only dealing with a possible description of certain aggregated phenomena in the entire population of a given life form and we can talk about trends and possible scenarios. This is where biology ends and goes into another area of learning, which is the humanities, or the science of human activity⁵.

The humanities are a very broad area of learning describing all possible human activities, their decision-making processes, their effects, and the influence of one on the other. In terms of science, it is an extremely difficult field that has no real tools for quantitative description. Here the description of science begins in a qualitative, subjective, ambiguous and debatable way. This is an area of learning whose prediction time can be so short that it needs changing repeatedly over an individual human being's lifespan. In addition, this prediction time is permanently being shortened as the knowledge of human society increases. Any progress that humans make in learning about previous areas of knowledge leads to new discoveries which change human life and activity, and this in turn shortens the prediction time for previously discovered patterns of human activity. In these fields we are in constant pursuit, without being able to find ourselves in a situation of real cognition. All that remains is for us to base ourselves on some very general truths and relationships arising from all the previous fields of knowledge. We thus arrive at the last science, which is philosophy.

It is philosophy that comes to our aid when we are unable to explore human activity based on other ways of learning. Philosophy shows us the patterns that we should strive towards when we get lost in our pursuit of success and cognition. It is a science which, in its essence, is based only on all general laws of earlier teachings, but its main argument is formal logic. We thus return to the very beginning of our deliberations, i.e. to logic and close the theory of the essence of science (Fig. 1).

⁴ Theory on the principles of the existence of life

⁵ Theory of homo hedonistic

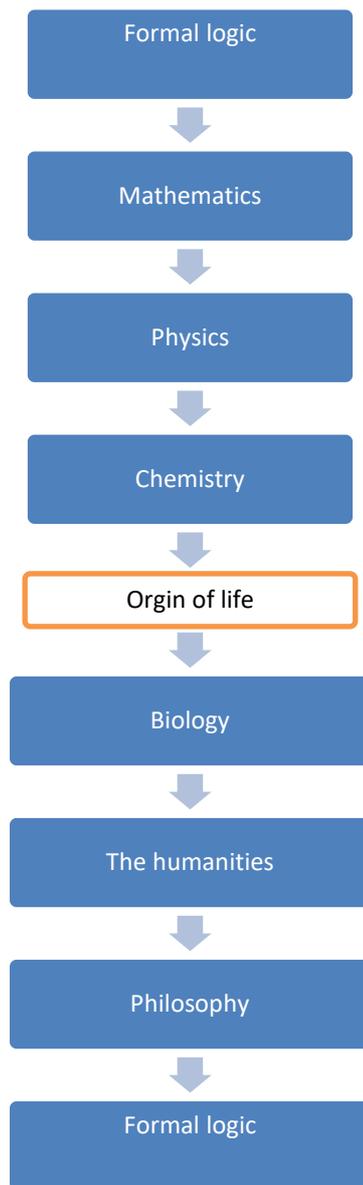


Fig.1. Diagram showing fields of science

If in any area of science we encounter a problem which is inexplicable in a logical way or if run into an inconsistency, we should always look to a lower level of science and see if we can find a solution to the problem there. We can thus proceed until we find a field of science where we can solve the problem⁶, and we can then transfer this solution to all subsequent levels of learning, improving any errors encountered in the area of the problem we are seek-

⁶ As a last resort, we can go back to mathematics and look for initial solutions there.

ing to solve. This is the only logical way to integrate all knowledge and explain all the problems that are crucial to us. However, we must not forget that there is an important division in the sciences, located between chemistry and biology; this is where life comes and this is where the most difficult border is. This is the boundary between the deterministic and probabilistic sciences. When crossing this knowledge boundary we must exercise extreme caution, because it is the limit of formal logic. Along with life, we begin to deal with random and illogical issues. This is both the result of life processes that often have a random character, and also the result of actions of conscious beings that make their choices (decisions) in a subjective way and which are usually incompatible with the mathematical distributions of the probabilities of their real consequences⁷.

When exploring new theories, do not lose sight of the following principles:

1. A simpler solution, if it just explains the given phenomenon well, is better than a more complicated one,
2. Never start a theory from something that for you is inexplicable,
3. The only true axioms exist in formal logic and mathematics,
4. A new theory should never be based on laws and paradigms as to which you have any doubts whether they are correct (valid). If you have any such doubts, always begin a new theory from the laws of logic and mathematical axioms,
5. The fields of science that describe any form of life, especially conscious life, can be based only on paradigms, i.e. repeatable observations with strong prediction,
6. If for any reason the prediction of paradigms is weakened for a longer period, then new paradigms for the given phenomenon related to the activity of conscious life forms should be found.

⁷ Theory of homo hedonistic – section on decision-making processes