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RECIPROCAL RELATIONS OF MAN AND THE UNIVERSE.

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V.

THE skeptic who, in the infancy of human thought, had the temerity to suggest that things worked out their observed relations of correspondence through the activities residing within them, was met, naturally enough, with derision. Yet every step that science has taken has been in the direction of disproving the popular and confirming the unpopular view. It has been gradually but steadily vindicating reason as against analogy, and establishing a causal as against an arbitrary connection between related facts.

From this point of view we may now consider Kant's own formulated antinomies. The first thesis is :

"The universe has a beginning in time, and is also inclosed within limits in space" ; the antithesis of which is : "The universe has no beginning and no limits in space, but is eternal in time and infinite in space." Has science anything to say on this question, and, if so, which side does it espouse? Undoubtedly science has to do with it, and it also clearly takes sides upon it. Quantitative chemistry, scarcely born in Kant's time, has practically demonstrated the infinite duration of the universe in establishing the indestructibility of matter. Astronomy, to which Kant's own immortal "Theorie des Himmels" helped to give its rational impetus, has now so expanded the conception of space that it has become habitual to regard the universe as absolutely without limits. If any one doubts this, let him make an effort to go back to the old dogmatic conception, and figure to his mind a beginning or end to its duration or boundaries to its extent. He will find this impossible, and this impossibility is wholly due to the increased knowledge of the universe which science has given to the world. It was once possible, it is still possible to the ignorant, to set bounds to time and space, but inductive science has swept away such crude scaffoldings, and opened up to the human mind, as it were, a view of the infinite.

It is no longer a transcendental question. It is a scientific one, to be solved, like all other scientific questions, by the accumulation of facts. Nothing in concrete science is demonstrated *a priori*. The practical truths of the universe are established *a posteriori* - by massing the evidence. In many of the questions now regarded as settled,