

can have no trains of thoughts, but only trains of feelings, yet have a consciousness which, more or less distinctly, foreshadows our own." In short, the theory of "animal automatism" violates our conception of continuity in evolution. Either the one or the other must be sacrificed.

Historically, the Cartesian theory had but a limited influence, much less, indeed, than it deserved. Erroneous though we must believe it to be, it was more in the line of progress than the metaphysical interpretations which outlived it.

While it may be possible for us to appreciate the theological and metaphysical interpretations, and to see them in perspective as complementary, not antagonistic, to scientific analysis, the historical fact must be recognized that they tended to hinder research. The observer watched the industry of bees, birds, and beavers, pronounced the word "Instinct", and turned away to something which seemed more intelligible. "Instinct" was regarded as an inborn gift defying all analysis. It was cited, even by Hume, as an ultimatum, like life itself. Others compared it to gravitation.

But this easy-going—and in reality quite unprogressive—way of looking at the facts could not last. On the one hand, the critics began to show that many cases of alleged instinctive activity were really cases of rapid learning. Thus Alfred Russel Wallace pointed out that birds hatched and brought up alone do not build the characteristic nest, nor sing the characteristic song of their kind. He argued justly that imitation, education, and individual intelligence count for much, and that the sphere of instinct had been grossly exaggerated. On the other hand, the critics pointed out that instinctive activities were not so stereotyped or perfect as was generally supposed. In fact, as Büchner, Vogt, and others showed, instincts might sometimes lead the animal astray. For a time, however, verbal discussions as to "instinct" seem to have been even more rife than the disputes of economists as to the meaning of "value".