

Oorzaak en gevolg : causaliteitsdiscussies in Nederland in de tweede helft van de 19de eeuw

Citation for published version (APA):

Scheurwater, G. J. L. (1999). *Oorzaak en gevolg : causaliteitsdiscussies in Nederland in de tweede helft van de 19de eeuw*. [Doctoral Thesis, Maastricht University]. Eburon.
<https://doi.org/10.26481/dis.19990423gs>

Document status and date:

Published: 01/01/1999

DOI:

[10.26481/dis.19990423gs](https://doi.org/10.26481/dis.19990423gs)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

SUMMARY

CAUSE AND EFFECT

Discussions on the problem of causality in the Netherlands
in the second half of the 19th century

The present study inquires into the philosophical discussions on the problem of causality, which took place in the Netherlands in the second half of the 19th century. Several prominent Dutch philosophers who played a central role in these discussions are ascribed a key-role in this study: C.W. Opzoomer (1821-1892), B.H.C.K. Van der Wijck (1836-1925), C.B. Spruyt (1842-1901), J. L'Ange Huet (1840-1924), A. Pierson (1831-1896) and G. Heymans (1857-1930). Virtually all of them occupied a chair of professor at one of the Dutch universities, making this study a part of the written history of academic philosophy in the Netherlands.

The question this study tries to answer is: How the discussions on the problem of causality in the Netherlands developed during the second half of the 19th century? More specifically: Which argumentations were formulated by Dutch philosophers to solve the problem of causality? In order to answer these two questions a problem-oriented method is used, which implies that the questions and argumentations that these philosophers formulated as regards the problem of causality, are taken the starting-points to this approach.

The key-questions which these philosophers saw as related to the problem of causality can be categorised into three kinds: questions of meaning, questions of origination and questions of justification. It is suggested that the last two kinds of questions reflect the main philosophical approaches which these discussions dominated. These approaches have been named, the origination-approach and the justification-approach. The former approach is related to empiricist and positivist points of view, whereas the latter is related to criticist viewpoints.

Chapter I focuses on the discussion between Opzoomer and Van der Wijck on the one hand, and, Spruyt on the other hand. The main questions concerning causality which Opzoomer addresses in his *De weg der wetenschap (The road of science)* of 1851 and in *Het wezen der kennis (The essence of knowledge)* of 1863/1867 are: What does it mean to say that 'one particular phenomenon causes another particular phenomenon'? On what basis does one assume that there is regularity in nature? Is the notion of cause originated by experience or is it innate? And, can one explain that the principle of causation arises from induction? Opzoomer attempts to answer these questions in empiricist terms, maintaining that all knowledge is founded on experience and concluding that innate notions do not exist. Furthermore, he argues

that both the notions of cause and of necessary connection, as well as the principles of causation and of regularity can be explained in terms of origination.

Spruyt fundamentally disagrees with Opzoomer in his 'Aangeboren waarnemingsvormen' (Innate forms of perception) of 1871. The main questions Spruyt puts, is: How can the ascription of universality to a rule concerning the succession of phenomena, which is only confirmed by some instances, be justified? What is the justification of the conviction that every change has a cause? Spruyt takes a criticist's point of view toward knowledge; as regards causation in particular, he thinks, some innate elements play a crucial role in the acquisition of knowledge. Spruyt objects to Opzoomer in that the origination-approach leads to contradictions, maintaining that this could lead to only one possible conclusion: the notion of cause and the principle of causation have to be innate forms of perception.

In 1871, in his reply 'Een nieuwe kritiek van de wijsbegeerte der ervaring beschouwd' (A new critique of empiricism considered), Opzoomer tries to prove that Spruyt deliberately misinterpreted his position. In his *De wijsbegeerte der ervaring verdedigd* (Empiricism defended) of 1871, Van der Wijck defends Opzoomer's position against Spruyt's criticism. He argues that an empirical explanation of the problem of causality may exist, demonstrating that Spruyt jumps to conclusions. Spruyt replies to Van der Wijck in *De laatste gedaanteverwisseling van de wijsbegeerte der ervaring toegelicht* (The recent metamorphosis of empiricism explained) of 1872. In it he attempts to expose Van der Wijck as a defender of the justification-approach in disguise. Also Spruyt tries to demonstrate that Van der Wijck's empirical explanation of the problem of causality leads to nowhere, maintaining that such explanations were and will remain unsuccessful and concluding that the notion of cause and the principle of causation must be innate forms of perception.

Chapter II focuses on L'Ange Huet's theory of causality, which he expounds in his *Nieuwe oplossing voor een oud vraagstuk. De methode van het positivisme toegepast op het begrip oorzaak en gevolg* (New solution of an old problem. The method of positivism applied on the concept cause and effect) of 1872. Huet formulates his theory not only in consequence of the debate between Opzoomer, Van der Wijck and Spruyt, but also as a way of completing Comte's positivist theory.

Huet refutes both Opzoomer's and Van der Wijck's empiricist argumentations as well as Spruyt's criticist's supposition that innate notions exist. He argues that they excluded an alternative: positivism. Moreover, Huet argues that they misinterpreted the problem of causation. According to Huet this problem can be brought to an adequate solution only if some fundamental questions of meaning are answered: What does the concept of cause and effect mean when one traces it back to its origin? And, what is the meaning of the principle of causation? For Huet, the meaning of abstract concepts can only be found by inquiring into one's own inner state from which such concepts arise. In other words, Huet translates questions of meaning into questions of origination. Huet explains the origin of the awareness of causal connections and the origin of the abstract notion of cause by his theory of sympathetic sensations.

According to this theory an instinct to imitate movement leads to particular sympathetic impressions. He concludes that both the awareness of causal connections as well as the abstract notion of cause itself can be traced back to one single sympathetic impression of causal action of objects.

Furthermore, Huet argues that the notion of causation is not, and never was, useful for scientific purposes because the essence of scientific explanation is to subsume phenomena under general, law-like, rules. He also demonstrates that explanations in physics, which are focused on the explanation of the succession of phenomena, and to those in classical biology, which are focused on the explanation of the coexistence of phenomena, only differ in gradation. Huet finally concludes that the notion of causation belongs to a bygone phase of thinking.

Chapter III illustrates both Spruyt's criticism on Huet's theory as well as Spruyt's own view on causality. In 'Oude dwalingen in een nieuw kleed' (Old errors in new disguise) of 1873, Spruyt accepts Huet's criticism on Opzoomer, but he defies Huet's theory of sympathetic sensations. Spruyt demonstrates that this theory must necessarily conflict with Huet's positivism. He further disagrees with Huet on the subject of the difference between explanations in physics and in classical biology. He also maintains that Huet's theory is incomplete because Huet does not explain the origin of the principle of regularity. Spruyt concludes his criticism of Huet by showing, that the latter did not answer the question of justification: How can it be justified that, prior to any experience, one is convinced that there is regularity in nature? The discussion between Spruyt and Huet is open ended, since Huet never replied to Spruyt's critique.

Until 1873, Spruyt had approached the problem of causality from a rather negative point of view. However, in his prize-winning *Proeve van eene geschiedenis van de leer der aangeboren begrippen* (*Outline of a history of the doctrine of innate ideas*) of 1879, Spruyt attempts to provide a positive argumentation for the necessity of assuming innate forms of perception. At this point he rejects Hume's theory of causality, thereby rejecting the origination-approach once more. Furthermore, Spruyt explicitly agrees with Kant's proof of his second analogy of experience, concluding that the principle of causation has to be a priori.

Chapter IV focuses on Pierson's *Wijsgeerig onderzoek. Kritische prolegomena van esthetiek* (*Philosophical investigation. Critical prolegomena of aesthetics*) of 1882. In his work Pierson rejects Spruyt's *Proeve*, and therefore his justification-approach, by demonstrating that there are some crucial contradictions in Kant's proof of his second analogy of experience. He concludes that Kant did not prove that the principle of causation is a priori. Moreover, Pierson maintains that there is no need to assume that this principle is a priori because, in practice, scientists do not need such a justification for their activities. According to Pierson, the conviction that every phenomenon has a cause arises from custom, which, he believes is a sufficient basis for doing scientific research.

Furthermore, Pierson inquires into the meaning of Hume's notion of cause and concludes that Hume's definition of that notion is inadequate. He denies that it is

justified to assume an identity between the notion of causal connection and the notion of a fixed-time order regarding objects that are perceived. From his analysis of the meaning of the notion of cause and effect, Pierson concludes that cause and effect must be viewed as two aspects of the laws of nature. Moreover, he concludes that the notion of cause has no added theoretical value whatsoever when it comes to scientific purposes.

Contrary to what one would expect, Spruyt did not reply extensively to Pierson's criticism. His only reaction (1888) is that Pierson apparently considered the *Proeve* somewhat of a stumbling block.

Chapter V illustrates both Heymans' theory of causality as well as the discussions between Heymans and his critics. In his prize-winning *Schets eener kritische geschiede- geschiedenis van het causaliteitsbegrip in de nieuwere wijsbegeerte* (*Outline of a critical history of the concept of causality in newer philosophy*) of 1890 and also in the second part of his *Gesetze und Elemente des wissenschaftlichen Denkens* (*Laws and elements of scientific thought*) of 1894, Heymans makes a distinction between the psychological and the philosophical problem of causality. The psychological problem of causality refers to the following question: How can it be explained that observations cause the firm conviction to arise that there is a necessary connection between what is observed now and what will be observed in the future? The philosophical problem of causality refers to this question: How can the conviction that future observations always confirm the expectation that there are necessary causal connections between phenomena be justified?

Heymans rejects Hume's theory of association, and therefore the origination-approach, because this theory is unable to explain the universal validity of the principle of causation and the absolute certainty of the principle of regularity. To solve both the psychological problem as well as the philosophical problem of causality Heymans adheres to the postulate of Hamilton, i.e. the conviction a priori that all that exists in reality is unchangeable. This postulate implies that one has to assume an unchangeable reality behind the perceptions of change. Heymans hypothesizes that all phenomena of causal thinking can be explained by this postulate. This hypothesis lucidates, Heymans maintains, why and in which cases causal explanations are sought. It also sheds light on the function and structure of causal explanations, the function of scientific hypotheses, the certainty and absolute validity of causal axioms and of specific scientific principles.

Heymans' greatest difficulty is justifying Hamilton's postulate, which forms the philosophical basis of Heymans' theory of causality. In order to justify this postulate, Heymans suggests that this problem of justification might be solved by accepting Kant's hypothesis of the a priori structure of time as a basic assumption. However, his mere programmatic and rather speculative solution fails to convince early critics such as the philosophers H.J. Betz in his 'Bezwaren van een leek tegen het causaliteitsbegrip van dr. G. Heymans' (Objections of a layman against Heymans' concept of causality) of 1891, D.G. Jelgersma in his 'Causaliteit' (Causality) of 1891 and G.J.P.J. Bolland in his *Verandering en tijd* (*Change and time*) of 1896. Almost

in unison these critics maintain that Heymans' hypothesis makes it difficult to reconcile the actual perceptions of change with the speculative assumption of an unchangeable, hidden reality. Although Heymans replies to these critics, he attempts to circumvent justifying the a priori conviction that all that exist in reality is unchangeable.

However, these often subtle discussions on the problem of causality, which were initiated by Opzoomer's *De weg der wetenschap* in 1851 and more or less ended with the criticism on Heymans' theory of causality in the 90's, remain open ended: no consensus of how to solve the problem of causality has been reached. Although other Dutch philosophers have addressed this problem, mainly as parts of monographs on more general philosophical subjects, no new discussions were initiated at the end of the 19th century.

The Epilogue illustrates that Heymans' theory of causation was debated again in the first decades of the 20th century. This time the criticism on Heymans' theory originated not from philosophers but from physicists such as Ph. Kohnstamm (1875-1941), J. Clay (1882-1955) and J.D. van der Waals jr. (1873-1971). They stress that the problem of causation can be solved by way of modern theories in physics. One could say that it is these physicists who, finally, did introduce the so-called scientific turn in regard to philosophy in the Netherlands.

It can be concluded that a gap in the history of philosophy has been filled in by this piece of research. Prior to the present study the prevailing discussions on philosophical questions related to the problem of causality were never examined systematically. Moreover, the following two questions are answered by this study: How did the discussions on the problem of causality develop in the Netherlands in the second half of the 19th century? And, which argumentations were formulated by Dutch philosophers to solve the problem of causality? It can also be concluded that these discussions have much more to offer than might generally be assumed, both from a historical and from a philosophical point of view. Furthermore, this study illustrates that the application of a problem-oriented method clarifies the connecting elements between different philosophers. Moreover, this method has also clarified why the philosophers' opinions differed. Finally, the method used might offer a fruitful approach to new or additional inquiries into the philosophical heritage of the Netherlands.