

# Epistemic Closure as a Cybernetic Phenomenon

## From the Synod of Dordrecht to Contemporary Dutch Governance

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### **Abstract**

The concept of epistemic closure is usually treated as a cognitive phenomenon at the level of individuals or groups. Philosophers such as Rik Peels have analyzed the mechanisms by which belief systems become resistant to correction, criticism, and external evidence. This article proposes a broader interpretation. Epistemic closure is examined not primarily as a defect of reasoning but as a structural property of self-organizing social systems.

Drawing on cybernetics, systems theory, philosophy of science, and Dutch intellectual history, the article argues that epistemic closure emerges whenever institutions lose their capacity for model revision while preserving their capacity for self-reproduction. Under this interpretation, the historical significance of the Synod of Dordrecht (1618–1619) lies not merely in its theological outcomes but in the establishment of a durable architecture of epistemic authority — one that subsequently reappeared in Kuyperian pillarization, academic institutions, media structures, governance, and contemporary public discourse.

The article further argues that the work of Rik Peels presents an analytically instructive paradox: his research program identifies the structural characteristics of epistemic closure with considerable precision, while his own institutional position constitutes an instance of the phenomenon he describes. This is not a personal failing but a systemic property. The article concludes that epistemic closure and cybernetic feedback failure are different descriptions of the same phenomenon, and that this identification opens a more productive line of inquiry than either epistemology or history alone can provide.

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## **1. Introduction: The Limits of Individual Explanation**

Most discussions of epistemic closure begin with individuals. Why do people reject evidence? Why do communities become insulated from criticism? Why do institutions continue to defend positions that no longer correspond to observable reality?

The standard answers are psychological: confirmation bias, motivated reasoning, identity-protective cognition, and ideological commitment are frequently invoked. While these explanations possess considerable power at the individual level, they leave an important question unanswered:

*How do entire institutional systems become resistant to correction despite being populated by intelligent, educated, and often well-intentioned individuals?*

This article proposes that the answer lies in cybernetics. Epistemic closure is not merely a property of minds. It is a property of feedback architectures. The shift from individual to

system level is not merely a change of scale — it is a change of explanatory category.

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## **2. Epistemic Closure: The Philosophical Account**

Peels characterizes epistemically closed systems through several recurring structural features: resistance to counter-evidence; restriction of authoritative sources; identity-dependent beliefs; hermeneutic self-protection; and systematic exclusion of alternative interpretations (Peels, 2022; Peels & Kindermann, 2022).

Such systems remain internally coherent because incoming information is processed through pre-existing interpretive filters. The crucial feature is not ignorance in the ordinary sense. It is *immunity to correction*. The system continues to generate certainty while systematically reducing exposure to disconfirming information.

This account is phenomenologically accurate. Its limitation is that it remains individualistic: it describes what closed systems look like from the inside, but does not explain how they are produced and maintained at the institutional level.

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## **3. A Cybernetic Reinterpretation**

Cybernetics emerged during the twentieth century through the work of Norbert Wiener (1948), Ross Ashby (1956), and Stafford Beer (1972, 1979). Its central concern was the question: *How do systems maintain themselves in changing environments?*

The answer is feedback. A viable system continuously compares expectations against observations, detects deviations, and generates corrections. This process may be represented as:

**Reality → Feedback → Model Revision → Adaptation**

A healthy system modifies its internal model in response to environmental signals.

Epistemic closure appears when one element of this cycle is disrupted:

**Reality → Feedback → Filtering → Confirmation → Reproduction**

Feedback still enters the system. It simply ceases to function as feedback. Information becomes confirmation. Correction becomes structurally impossible. The system achieves high internal stability while losing contact with its environment.

This yields a cybernetic definition of epistemic closure:

*The condition in which a system preserves mechanisms of self-reproduction while losing mechanisms of self-correction.*

This definition shifts analysis away from individual psychology. The central question becomes: *Which institutional structures determine whether external information can alter the internal model?*

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## **4. Ashby's Law and Institutional Survival**

Ashby's Law of Requisite Variety states that only variety can absorb variety (Ashby, 1956). A system must possess sufficient internal complexity to respond to the complexity of its environment. When environmental variety exceeds institutional variety, adaptation fails.

Institutions frequently respond to complexity by *reducing* internal variation: standardization, centralization, credentialization, bureaucratization. Initially this increases order. Eventually it reduces adaptive capacity. The institution becomes progressively unable to process novel information. What appears as stability becomes rigidity. Paralysis becomes the price of order.

This is the cybernetic paradox of institutional survival: the mechanisms that ensure short-term stability systematically undermine long-term adaptability.

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## **5. Dordrecht as an Epistemic Design Event (1618-1619)**

The Synod of Dordrecht is conventionally analyzed as a theological conflict. From a cybernetic perspective, its importance lies elsewhere.

The Synod established authoritative procedures for determining: legitimate doctrine; legitimate interpretation; legitimate sources of authority; and the boundaries of permissible dissent. Its outcome was not merely theological orthodoxy. It was the institutionalization of a mechanism for distinguishing valid from invalid feedback.

The Contra-Remonstrant position, theologically rooted in Beza's supralapsarianism rather than in Calvin's more pastorally cautious predestinarianism, had a specific epistemological structure: the conclusion — the divine decree — precedes all observation, experience, and conscience. No individual perception can constitute legitimate grounds for revision of the foundational model. This is precisely the cybernetic structure of a closed feedback loop.

The political dimension reinforces the analysis. Prince Maurits chose the Contra-Remonstrant side for reasons of political competition rather than theological conviction. The execution of Johan van Oldenbarnevelt on 13 May 1619, and the closure of the Synod four days later, constituted a single political act with lasting epistemological consequences. Two hundred Remonstrant ministers were expelled.

What was eliminated in 1619 was not merely a theological position. It was an alternative feedback architecture. The Remonstrant tradition — associated with Arminius, Grotius, and subsequently Spinoza — placed the individual conscience as the primary epistemic authority. Hugo Grotius had already derived from this anthropology the foundations of international law: *Mare Liberum* (1609) argued that no authority, political or commercial, could claim unlimited extraction rights over individuals and peoples possessing natural rights. Had the Remonstrant position prevailed institutionally, Grotius would have been the mainstream. Instead he became an exile.

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## **6. The VOC and the Theological Legitimation of Capital Accumulation**

The Dutch invention of institutionalized capitalism — the VOC (1602), the Amsterdam

Exchange Bank (1609), the Amsterdam stock exchange (1611) — was not independent of the theological settlement of Dordrecht. The Contra-Remonstrant theology provided three functional legitimations for early capitalist accumulation:

**Accumulation as sign of election.** In the Bezanian framework, wealth was readable as confirmation of divine grace. This neutralized moral criticism of inequality and provided theological warrant for the pursuit of surplus.

**Hierarchy as providential order.** If the social order reflects the divine decree, it is by definition legitimate. The ministers who sailed with VOC fleets preached obedience and discipline; slavery was interpreted as part of the providential arrangement of society.

**Economic extraction outside moral jurisdiction.** The economic sphere, in the Bezanian and subsequently Kuyperian framework, possesses its own divine ordering that cannot be judged from outside it. Grotius's argument that extraction is bounded by the natural rights of individuals and peoples was institutionally marginalized after 1619. The VOC operated without that constraint.

This is not a contingent connection. The specific epistemological structure of the Bezanian system — conclusions precede evidence, the foundational model is immune to external correction — created the conditions under which large-scale commercial extraction could proceed without effective moral feedback.

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## 7. Spinoza and the Price of Epistemic Openness

Baruch Spinoza was subjected to the most severe *cherem* (ban) ever pronounced by the Amsterdam Jewish community in 1656. His *Ethics* was published posthumously in 1677 because publication during his lifetime was too dangerous.

Spinoza's position was the Remonstrant anthropology in its most radical form: God and Nature are identical; the individual intellect is the highest moral authority; no institutional system can legitimize its own foundations from within. This is the philosophical equivalent of an open feedback loop: any element of the system, including its foundations, can in principle be subjected to revision.

The institutional response — expulsion, censorship, personal danger — demonstrates the mechanism in operation. The system did not engage with Spinoza's arguments. It eliminated him from the information environment.

Contemporary Dutch intellectual culture frequently claims Spinoza as national heritage while maintaining the institutional infrastructure that expelled him. This constitutes the same asymmetry visible in Peels's work: the tradition claims to value the open conscience while structurally excluding the institutional conditions under which such a conscience can operate.

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## 8. Abraham Kuyper and the Institutionalization of Closure (1880)

Abraham Kuyper's political-philosophical contribution was not primarily his theology but his institutional construction. The doctrine of *souvereiniteit in eigen kring* (sovereignty in each sphere) — which assigns each social domain (church, state, family, school, economy) its own divine ordering that cannot be evaluated from outside — is a philosophical formalization of the Bezanian feedback structure applied to modern society.

Each sphere is self-legitimizing. The market cannot be judged by moral criteria external to market logic. The church cannot be subjected to scientific criteria external to theological tradition. The university cannot be assessed by standards external to its disciplinary community. Each sphere generates its own confirmation.

Kuyper built institutional infrastructure to reproduce this architecture across generations: the Vrije Universiteit Amsterdam (1880), the newspaper *De Standaard*, the Anti-Revolutionary Party, confessional schools and trade unions, and a comprehensive system of associational life. The result was what sociologists later called *verzuiling* (pillarization): society organized into semi-autonomous epistemic communities with minimal cross-pillar feedback.

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## 9. Pillarization as a Feedback Architecture

Dutch pillarization is frequently analyzed as a mechanism of social peace — a pragmatic arrangement for managing confessional diversity in a small country. This interpretation is

partially accurate.

From a cybernetic perspective, however, pillarization also reorganized the information environment. Knowledge, authority, and criticism increasingly circulated *within* pillars rather than *between* them. Cross-pillar correction was structurally weakened. Internal coherence was structurally strengthened.

The system achieved equilibrium through managed isolation. Each pillar developed its own universities, newspapers, broadcasting organizations, political parties, and professional associations. The EO (Evangelische Omroep) and the VPRO (Vrijzinnig Protestantse Radio Omroep) are direct media expressions of this structure — the former representing the closed Bezanian feedback architecture, the latter the institutionally weaker open Remonstrant tradition.

The structural asymmetry is significant. The pillar built on the premise that conclusions precede evidence can maintain institutional cohesion indefinitely: its members share a common model that does not require external validation. The pillar built on the premise that the individual conscience is primary cannot generate equivalent institutional loyalty: it cannot require agreement on foundational conclusions, and therefore cannot build an equivalent network.

This asymmetry, first created in 1619, persists in the contemporary media landscape: the confessional media (EO, *Nederlands Dagblad*, *Reformatorisch Dagblad*) possess stable institutional bases and social networks; the open tradition (VPRO, *De Groene Amsterdammer*) remains institutionally thinner and more vulnerable to commercial pressures.

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## 10. Contemporary Governance: Self-Reference as Structural Property

The same feedback architecture is observable in Dutch administrative governance.

Modern bureaucracies frequently evaluate performance using indicators generated by the bureaucracy itself. Reports evaluate reports. Committees evaluate committees. Models validate models. The distinction between external reality and institutional representation gradually weakens.

Luhmann's systems theory provides theoretical grounding here: social systems are operationally closed and reproduce themselves through communication (Luhmann, 1995). This is not a pathology but a normal property of social systems. The question is not whether systems self-reproduce but whether they maintain mechanisms that allow external signals to alter internal models.

In the Dutch governance context, the mechanism of consensus — *poldermodel* — functions ambiguously. On one level it is a procedure for managing disagreement. On another level it is a mechanism for excluding paradigmatic alternatives from the range of legitimate positions. When consensus is reached among parties who share the same foundational assumptions, dissent is redefined as unreasonable rather than informative. The feedback loop closes.

Stafford Beer's Viable System Model requires that viable organizations maintain a channel through which environmental variety can alter the operating model of the system (Beer,

1972). When this channel is blocked — whether by theological authority, market logic, bureaucratic credentialization, or consensus norms — the organization retains the appearance of function while losing adaptive capacity.

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## **11. The Political Dimension: CDA, ChristenUnie, D66, and VVD**

The contemporary political landscape reproduces the historical bruchlijn with structural consistency.

The **CDA** and **ChristenUnie** are the direct institutional descendants of Kuyper's Anti-Revolutionary Party. Their epistemological structure is Bezanian: a prior normative framework — "Christian-social" — that is not subjected to external verification but functions as the interpretive filter through which policy questions are processed.

**D66** represents the most recent institutional attempt to organize the Remonstrant tradition politically: individual conscience primary, no prior conclusions, openness to revision as a programmatic commitment. The structural consequence is consistent with the historical pattern: D66 experiences high electoral volatility, builds no stable institutional network comparable to the confessional parties, and does not convert electoral success into durable institutional change. This is not a strategic failure. It is the structural consequence of an epistemology that cannot generate institutional closure.

The **VVD** represents a secular variant of the Bezanian structure. Its foundational commitment — market logic as the legitimate arbiter of policy — functions identically to

the divine decree: prior to argument, immune to moral feedback from outside the market sphere, self-legitimizing. "There is no alternative" is supralapsarianism in economic language: the outcome is determined before the reasoning begins.

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## **12. Peels as Observer and Product**

An analytically instructive paradox emerges from the foregoing.

Peels identifies the structural characteristics of epistemically closed systems with considerable precision. His research program on fundamentalism, extremism, and responsible belief constitutes a valuable contribution to the literature.

The paradox is that his own institutional position constitutes an instance of the phenomenon he describes. He works at the Vrije Universiteit — Kuyper's institution. His philosophical framework is Reformed Epistemology — developed by Plantinga, who explicitly builds on Kuyper's theology. He is associated with the Abraham Kuyper Center for Science and Religion. He publishes in partnership with researchers institutionally connected to the ChristenUnie.

The internal tensions in his work — the asymmetric application of the self-refutation argument, the failure to apply his own fundamentalism criteria to Reformed Epistemology, the asymmetric treatment of atheism and theism, the non-application of his indoctrination excuses to his own tradition — are not personal failings. They are structural properties of

operating within an institution whose founding purpose was to reproduce a specific epistemic architecture.

This does not invalidate his work. It situates it. And it provides the most important illustration of the article's central thesis: a system can produce intelligent, well-intentioned, rigorous scholarship and simultaneously function as a mechanism of epistemic closure. The two are not contradictory. They are complementary.

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### **13. Stability and Paralysis: The Fundamental Dilemma**

All social systems face a fundamental dilemma. Too much openness produces instability: a system that revises its model in response to every signal cannot maintain coherent operation. Too much closure produces paralysis: a system that filters all external signals into confirmation cannot adapt to environmental change.

This can be represented schematically:

<b>Dimension</b>	<b>Open System</b>	<b>Closed System</b>
Innovation	High	Low
Stability	Low	High
Diversity	High	Low
Coordination	Low	High
Learning	High	Low
Identity	Weak	Strong

The optimal position is not fixed. It depends on the rate of environmental change. When environments are stable, closure is adaptive. When environments change rapidly, closure becomes lethal.

The Dutch governance system was constructed for a slowly changing environment. Its pillarized architecture produced remarkable stability for several centuries. The current period is characterized by rapid change — technological, demographic, geopolitical, ecological. Under these conditions, the mechanisms that produced stability are producing paralysis.

The Netherlands does not lack intelligence, resources, or good intentions. It lacks institutional mechanisms for allowing disconfirming information to alter foundational

models. That is a cybernetic diagnosis, not a moral one.

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## 14. Conclusion

The concept of epistemic closure acquires a deeper significance when interpreted through cybernetics. It ceases to be merely a description of irrationality or ideological rigidity. It becomes a structural property of self-organizing systems that have lost their mechanisms of self-correction while retaining their mechanisms of self-reproduction.

The historical continuity from Dordrecht through Kuyper through pillarization to contemporary governance is not the persistence of particular theological doctrines. It is the persistence of a specific feedback architecture — one in which the foundational model is immune to external correction, in which certain information sources are defined as legitimate and others as inadmissible, and in which consensus functions as a mechanism of exclusion rather than deliberation.

Peels analyzes the symptoms of this architecture with precision. His own institutional position illustrates its operation with equal precision.

The deepest question is no longer: *What do Dutch institutions believe?*

It is: *How do Dutch institutions determine which signals are allowed to change what they believe?*

That question belongs simultaneously to philosophy, cybernetics, history, and governance theory. It may also be one of the defining questions of contemporary democratic societies.

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## **Annotated References**

**Ashby, W. Ross (1956).** *An Introduction to Cybernetics*. Chapman & Hall. The foundational statement of the Law of Requisite Variety. Essential for understanding why adaptive systems require sufficient internal complexity to respond to environmental complexity. Provides the theoretical basis for interpreting epistemic closure as a reduction of adaptive capacity.

**Beer, Stafford (1972).** *Brain of the Firm*. Allen Lane. Applies cybernetic principles to organizational governance. Introduces the Viable System Model. Demonstrates how institutions maintain viability through feedback channels and recursive control structures. Particularly relevant for understanding governmental self-reference and administrative paralysis.

**Beer, Stafford (1979).** *The Heart of Enterprise*. Wiley. Extends the Viable System Model and explores organizational learning and the structural requirements for adaptive capacity.

**Grotius, Hugo (1609).** *Mare Liberum*. Elzevir. The founding text of international law, derived from the Remonstrant moral anthropology of natural rights. Represents the institutional alternative to Bezanian sovereignty that was marginalized after 1619.

**Konstapel, J. (2026).** *The Long Reformation: Beza's Predestination, Dutch Capitalism, and the Persistence of Cardinal Virtue Ethics in Dutch Public Discourse.* constable.blog.

Proposes a genealogical continuity between Dordrecht, Kuyperian institutionalization, pillarization, and contemporary governance. Argues that what is commonly described as Dutch administrative consensus culture is the secular successor of a theological architecture of epistemic authority.

**Konstapel, J. (2026).** *Epistemische Geslotenheid in het Nederlandse Denken: Van Dordrecht tot Peels.* constable.blog. Identifies internal tensions in Peels's research program as structurally symptomatic of the institutional tradition within which he operates. Provides the analytical foundation for the cybernetic interpretation developed in the present article.

**Kuhn, Thomas S. (1962).** *The Structure of Scientific Revolutions.* University of Chicago Press. Introduces paradigms and paradigm shifts. Shows how scientific communities preserve prevailing frameworks despite accumulating anomalies. Provides a crucial bridge between epistemology and systems theory, anticipating the cybernetic analysis of institutional self-reproduction.

**Kuyper, Abraham (1880).** *Souvereiniteit in eigen kring.* Kruyt. Inaugural lecture at the Vrije Universiteit Amsterdam. The philosophical foundation of the sovereignty-in-own-sphere doctrine that formalized the Bezanian epistemological structure in a modern political-philosophical framework.

**Luhmann, Niklas (1995).** *Social Systems.* Stanford University Press. Argues that social systems are operationally closed and reproduce themselves through communication. One

of the most sophisticated theoretical accounts of institutional self-reference. Provides the sociological foundation for distinguishing self-reproduction from self-correction.

**Peels, Rik (2017).** *Responsible Belief: A Theory in Ethics and Epistemology*. Oxford University Press. Develops the Influence View of belief responsibility. Analytically relevant for the present article's argument that responsibility for epistemic closure must be located at the system level rather than the individual level alone.

**Peels, Rik (2022).** *On Defining Fundamentalism*. *Journal of Political Ideologies*. Provides the working definition of fundamentalism employed in the present article's analysis of structural parallels with Reformed Epistemology.

**Peels, Rik (2023).** *Ignorance: A Philosophical Study*. Oxford University Press. Explores the epistemology of ignorance, including group ignorance and fundamentalist ignorance. Directly relevant to the present article's argument that institutional ignorance is a structural rather than merely cognitive phenomenon.

**Peels, Rik (2023).** *Life without God: An Outsider's Look at Atheism*. Cambridge University Press. Analyzes atheism as a position grounded in non-argumentative motivations and cultural frameworks. Analytically relevant for the present article's argument regarding the asymmetric application of this methodology.

**Popper, Karl (1945).** *The Open Society and Its Enemies*. Routledge. Develops the argument that social systems require institutionalized mechanisms of criticism and falsification. Popper's falsificationism provides a philosophical precursor to cybernetic notions of corrective feedback.

**Wiener, Norbert (1948).** *Cybernetics: Or Control and Communication in the Animal and the Machine.* MIT Press. The founding text of cybernetics. Introduces feedback as a universal principle underlying biological, technological, and social systems.

**Žižek, Slavoj (1989).** *The Sublime Object of Ideology.* Verso. Argues that ideology operates most effectively not through sincere belief but through structural participation despite cynical distance. Analytically relevant for understanding how epistemically closed systems maintain themselves among participants who do not fully endorse their foundational claims.