From Anomaly to Replacement

Six stages in the advance of a cybernetic paradigm

Working draft for educators, clinicians, researchers, regulators, journalists and supporters

Short summary

Paradigms do not usually change because a better explanation is placed politely on the table. They change when anomalies accumulate, institutional resistance becomes visible, independent thinkers build a parallel evidence base, contradictions in the old framework deepen, and a new framework proves more useful.

The Cybernetic Hypothesis of Periodontal Disease began as an anomaly in veterinary dentistry: mammalian carnivore periodontal disease could not be adequately understood as a local infection, a hygiene failure or a simple linear consequence of plaque. It pointed instead toward regulation, feedback, diet, oral ecology, systemic disease, population effects, ecology and time.

This document sets out the six-stage pattern by which a paradigm shift may unfold. It is not a prediction of easy victory. It is a map for disciplined action during a period when the old paradigm has not yet yielded and the new framework is still being made visible, teachable, testable and useful.

A different view of disease

The Cybernetic Hypothesis does not romanticise suffering or deny the need for care. It asks whether periodontal disease in mammalian carnivores may once have performed regulatory work within wider ecological systems. Under modern domestic, commercial and institutional conditions, the same processes may become chronic, amplified and destructive. This shift - from disease as isolated defect to disease as altered regulation - is central to the cybernetic approach.

1. Anomaly

A paradigm shift begins when someone notices something the prevailing framework cannot explain without distortion. In the present case, the anomaly is not merely that dogs, cats and other carnivores suffer periodontal disease. It is that the disease appears at the intersection of diet, chewing, oral ecology, microbial life, immunity, systemic illness, weakness, reproduction, survival and ecological consequence.

One reason the anomaly has been difficult to recognise is that modern observers usually begin from the present: humans as the dominant terrestrial regulators, pets as dependants, dentistry as repair, and periodontal disease as a local pathology. The Cybernetic Hypothesis begins from a deeper ecological past. Before humans acquired the technologies that made them planetary regulators—weapons, fire, agriculture, industry and institutional power—large carnivores occupied regulatory positions now difficult for modern minds to imagine. Their mouths, diets, microbiomes, diseases, predation, reproduction and death formed part of the feedback architecture of terrestrial life. To see periodontal disease cybernetically is therefore to step outside the present-day human-centred frame.

The anomaly becomes more important when it is not an isolated observation. Periodontal disease in mammalian carnivores opens a wider question: what happens when evolved regulatory processes are displaced into artificial conditions, especially when industrial feeding, veterinary repair, commercial incentives and institutional habits keep animals alive within conditions that sustain chronic disorder?

The philosophical error of modern medicine and veterinary science is to assume that every disease process is simply a defect awaiting correction. In cybernetic perspective, some disease processes may also be signals, constraints, regulators or consequences of disrupted feedback. The task is not to call suffering good. The task is to understand what regulatory work a disease process may have performed before modern conditions altered the system.

The first task at this stage is accurate naming. The anomaly must not be reduced prematurely to a familiar category. It must be described with enough precision that others can see why the old explanation is insufficient.

2. Resistance

Institutions rarely welcome anomalies that threaten their settled teaching, commercial arrangements, professional authority or regulatory habits. Resistance may appear as silence, ridicule, narrowing of the question, procedural delay, refusal to engage, or insistence that the anomaly be translated back into the terms of the old paradigm.

This resistance is not incidental. It is part of the historical pattern. Professions, universities, journals, regulators, corporations and public agencies are themselves regulatory systems. If their incentives, funding, reputations or routines depend on the older frame, they will tend to regulate against the new one.

The danger at this stage is to spend all available energy trying to force recognition from institutions whose incentives favour non-recognition. Resistance should be documented, but it should not become the whole work. The larger task is to build the parallel evidence base.

3. Parallel evidence base

The decisive work begins when the new framework develops its own evidence base, language, teaching tools, testable predictions and public examples. This is the stage at which a paradigm stops being only a complaint against the old order and becomes an organised research and teaching programme.

For the cybernetic framework, the parallel evidence base includes the original hypothesis, *Raw Meaty Bones: Promote Health*, later books and campaign materials, the *Journal of Periodontal Research* paper, the manifesto, educational documents, diagrams, testable predictions, clinical observations and public-facing explanations.

At this stage, the purpose is not merely to collect more facts. It is to change the unit of attention: from lesion to system, from treatment to regulation, from isolated noun to hidden map, from present-day repair to deep-time ecological function.

This is also where cybernetic literacy from childhood becomes strategically important. If children and students are taught early to see relationships, feedback, incentives and time, they will be less likely to inherit the fragmented grammar that made the anomaly invisible to earlier generations.

4. Crisis

A crisis develops when contradictions within the old paradigm become too numerous, too costly or too visible to ignore. In periodontal disease, the contradictions include the persistence of chronic inflammation despite local repair, the systemic associations with diabetes, cardiovascular disease and adverse pregnancy outcomes, the inadequacy of one-directional causation, and the failure to address diet, feeding form, institutional incentives and ecological context.

In wider public health and institutional life, similar contradictions appear wherever disease-producing systems are normalised and repair industries expand around them. The old paradigm may become highly efficient at managing damage while remaining poor at understanding how the damage is generated.

The role of the cybernetic programme at this stage is to make the pattern intelligible before crisis becomes merely another opportunity for patching, branding or procedural evasion. Crisis should be converted into explanation, testable reform and improved practice.

5. Replacement

Replacement does not mean that every older idea is discarded. Germ Theory, reductionist measurement and treatment remain valuable. The replacement occurs when they cease to be the master frame. They become tools within a wider cybernetic understanding of regulation, feedback, interfaces, incentives and time.

A cybernetic paradigm becomes more useful when it improves explanation, teaching, prevention, research design, clinical judgement, public-health administration and regulation. It asks not only ‘What lesion is present?’ but ‘What system produced and sustains this lesion?’ It asks not only ‘What treatment repairs damage?’ but ‘What regulatory conditions prevent the damage from recurring?’

In practice, replacement begins modestly: a lecturer changes a diagram; a clinician changes the question asked of a patient or client; a school teaches object maps; a regulator asks whether prevention is rewarded; a researcher designs a study that follows feedback across time rather than isolating a single variable.

Replacement also requires philosophical humility. Nature is not organised around human comfort categories such as good and bad, wanted and unwanted, useful and useless. Living systems use limits, signals, cycles, death, competition, cooperation and feedback. A more philosophical medicine and veterinary science would not romanticise disease, but it would ask what work disease may once have done before modern conditions altered its meaning.

6. Retrospective inevitability

After a paradigm begins to succeed, many people who resisted it may later say that the new view was obvious, already known, or always compatible with what they believed. This is the stage of retrospective inevitability. The new frame becomes normal, and the struggle required to establish it is quietly forgotten.

The practical lesson is to preserve the history. Timelines, correspondence, early papers, rejected arguments, institutional replies, published documents and teaching materials matter. They prevent the new paradigm from being absorbed without accountability into the very structures that resisted it.

The deeper goal, however, is not personal vindication alone. It is to ensure that the new paradigm is not diluted into a slogan. Cybernetics must retain its disciplined attention to relationships, feedback, regulation, incentives, interfaces and time.

Where the present work now sits

The Cybernetic Hypothesis appears to stand between Stage 2 and Stage 3. Institutional resistance has been encountered over many years. At the same time, the parallel evidence base is now far stronger than before: the original veterinary hypothesis, book-length development, public documentation, the 2026 periodontal medicine paper, educational materials, diagrams and testable research proposals.

The strategic emphasis should therefore be clear. Resistance should be recorded, but the central task is to deepen Stage 3: make the framework teachable, testable, citable, visual, public-facing and useful across dentistry, medicine, veterinary science, ecology, education and regulation.

The deep-time framing is essential to that work. Many present-day thinkers can imagine pets, clinics, products and repair systems, but cannot easily imagine a world in which large carnivores, their feeding, their microbiomes and their mortality helped regulate terrestrial homeostasis. Recovering that imagination may be one of the conditions for genuine understanding.

Practical implications

For educators: teach children and students to move from object to relationship, from snapshot to process, and from isolated noun to hidden map.

For clinicians: ask what regulatory failure sustains the disease, not merely what local lesion requires repair.

For researchers: design studies that follow feedback, time, interfaces and system-level consequences.

For biologists and ecologists: consider how carnivore mouths, microbiomes, prey relationships, scavenger networks and mortality may have participated in wider ecological regulation.

For regulators: examine whether existing incentives reward prevention, repair, denial or commercial accommodation.

For journalists: avoid reducing paradigm change to personal conflict; ask what the old frame cannot explain.

For supporters: help build the parallel evidence base rather than spending all energy seeking permission from resistant institutions.

Conclusion

Paradigm change is not an event. It is a process of naming anomalies, surviving resistance, building a parallel framework, clarifying contradictions, demonstrating usefulness and preserving the history of the struggle.

The Cybernetic Hypothesis asks medicine, dentistry, veterinary science and biology to look again at disease, not merely as defect, but sometimes as displaced regulation. Under natural conditions, periodontal disease in mammalian carnivores may have formed part of a larger ecological architecture. Under modern conditions, the

same processes may become chronic pathology. Understanding that difference may help researchers and practitioners come closer to the workings of nature and become better at their jobs.

Cybernetic literacy from childhood belongs within that larger process. It prepares minds before the old fragmented grammar becomes fixed. The six-stage paradigm document explains the historical pattern by which such preparation may become reform.

Selected references and source links

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