The Interpreter's Error:

How Systems-Oriented Cognition Is Systematically Misread as Evasion, Callousness, or Guilt in Investigative and Legal Contexts

A Synthesis of Empirical Evidence on Environmental Determination, Systemic Interconnection, and the Fundamental Attribution Error

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Abstract

Background: When an accidental event causes harm, the way a person explains what happened is shaped by their cognitive framework for understanding causation. Individuals who think in terms of systems—identifying webs of contributing factors, environmental conditions, and cascading interactions—produce accounts that are structurally different from accounts produced by individuals who think in linear, proximate-cause terms. This paper synthesises three converging lines of evidence to demonstrate that (1) environmental and systemic determination of human behaviour is empirically established; (2) all humans already behave as though their lives are systemically interconnected; and (3) a well-documented cognitive bias—the fundamental attribution error—causes systems-oriented accounts to be systematically misinterpreted as evasion, deflection, or evidence of guilt by investigators, prosecutors, and jurors operating within linear-causal frameworks.

Method: Integrative review synthesising findings from two prior empirical studies (OMXUS Research Initiative, 2026a, 2026b) with the established literature on the fundamental attribution error, blame attribution, and cognitive frameworks for causation.

Results: Environmental determination of language—one of the most complex human behaviours—is demonstrated at effect sizes exceeding conventional "large" thresholds (mean Cohen's $h = 0.93$; $N = 1.8$ billion). Universal security expenditure across all nations examined (mean household adoption Cohen's $h = 1.30$; government expenditure mean = 1.74% of GDP; global insurance premiums = USD \$9.09 trillion) constitutes behavioural proof that all individuals already acknowledge systemic interconnection. The fundamental attribution error (Ross, 1977) predicts that observers will nonetheless overattribute others' behaviour to dispositional factors and underattribute it to situational and environmental factors—precisely the distortion that occurs when a systems thinker's account is received by a linear-causal thinker.

Conclusions: The systems thinker who provides a contextual, multi-factor account of an accidental event is drawing on a cognitive framework that is (a) empirically supported by cross-national data on environmental determination, (b)

implicitly endorsed by the universal human behaviour of security expenditure, and (c) consistent with best practice in safety science, aviation investigation, and public health. The misinterpretation of such accounts as evasion or guilt is a predictable consequence of the fundamental attribution error and the dominance of linear-causal frameworks in legal settings. Awareness of this interpretive mismatch is essential for justice.

Keywords: fundamental attribution error; systems thinking; environmental determination; security expenditure; blame attribution; cognitive frameworks; legal psychology

Key Points

- Environment predicts language acquisition with 72–97% accuracy across 1.8 billion individuals (mean Cohen's $h = 0.93$), establishing that the most complex human behaviour is overwhelmingly environmentally determined
- Every household and nation allocates resources to manage consequences arising from the actions of others—universal security expenditure constitutes behavioural proof of systemic interconnection
- The fundamental attribution error causes observers to overattribute behaviour to personality and underattribute it to environment—even when the environmental account is more accurate
- A systems thinker's account of an accidental event is systematically mistranslated: contextual factors are heard as motive, multiple factors as evasion, analytical tone as callousness, and prevention-oriented language as premeditation
- The systems-thinking orientation is associated with prevention, learning, and prosocial outcomes—not with evasion, indifference, or guilt
- The communication gap between systems thinkers and linear-causal thinkers creates a structural disadvantage in investigative and legal contexts that can produce miscarriages of justice

1 Introduction

1.1 The Problem

Consider a person who has been involved in an accidental event that caused serious harm. They are asked by a police officer to explain what happened. They respond by describing multiple contributing factors: they were under significant stress from a

relationship breakdown; they had not been sleeping well; the environment was unfamiliar; the conditions were poor; they did not perceive the danger in time.

This account may be entirely truthful, entirely accurate, and entirely consistent with how accidental harm actually occurs. It may reflect a sophisticated understanding of the multiple interacting factors that converge to produce adverse outcomes—the same understanding that underpins modern safety science, aviation accident investigation, public health prevention, and organisational resilience (Dekker, 2002; Hollnagel, 2004; Reason, 1990).

Yet there is a high probability that the investigating officer, the prosecutor who reviews the file, and the jurors who eventually hear the case will interpret this account as something quite different from what it is. They may hear a person listing excuses. They may hear a person blaming everything except themselves. They may hear a person who is suspiciously calm and analytical about having caused harm. They may hear a person who has just provided a motive (the relationship breakdown) and demonstrated foreknowledge ("I can see how the factors made the outcome likely").

The same account that would be praised as thorough, honest, and prevention-oriented in a safety investigation may be treated as evidence of guilt in a criminal investigation.

This paper explains why.

1.2 Three Converging Lines of Evidence

This paper synthesises three converging lines of evidence to demonstrate that the systems thinker's account is not merely defensible but empirically grounded, behaviourally universal, and cognitively sophisticated—and that its misinterpretation is a predictable product of a well-documented cognitive bias.

Line 1: Environmental determination of behaviour is empirically established. A prior study (OMXUS Research Initiative, 2026a) demonstrated that geographic envi-

ronment predicts primary language acquisition with 72–97% accuracy across eight nations and 1.8 billion individuals. International adoption studies show 100% language replacement regardless of genetic ancestry. If the most complex human behaviour—language—is overwhelmingly determined by environment, then the premise that *other* human behaviours are also substantially shaped by environment is not speculative. It is the empirically supported default assumption.

Line 2: All humans already behave as though they are interconnected. A second prior study (OMXUS Research Initiative, 2026b) demonstrated that every household, nation, and economic system on Earth allocates resources to manage consequences arising from the actions of others. Household security adoption ranges from 75–99% across nations. Government security expenditure averages 1.74% of GDP. Global insurance premiums total USD $9.09 trillion annually. A lock on a door is a purchasing decision that presupposes systemic interconnection: other people's circumstances can affect you.

Line 3: The fundamental attribution error predicts the misinterpretation. The fundamental attribution error (FAE), first described by Ross (1977), is one of the most robust findings in social psychology. It refers to the tendency to overemphasise dispositional factors (personality, character, intentions) and underemphasise situational and environmental factors when explaining another person's behaviour. When a systems thinker provides an environmental and contextual account of an event, the FAE causes the listener to filter out the situational information and amplify the dispositional information—converting an accurate account into apparent evidence of guilt.

1.3 Purpose

This paper integrates these three lines of evidence to demonstrate that:

1. The systems thinker's cognitive framework is empirically grounded, not idiosyncratic.

2. The systems thinker's account of an accidental event is more accurate, not less accurate, than the linear-causal account that the legal system expects.

3. The misinterpretation of the systems thinker's account is a predictable cognitive error, not a reasonable inference.

4. The systems-thinking orientation is an indicator of positive character and prosocial motivation, not of evasion or guilt.

2 Line 1: Environmental Determination of Human Behaviour

2.1 Language as the Test Case

Language acquisition provides a uniquely powerful test case for environmental determination of human behaviour, because (a) it is among the most complex cognitive abilities exhibited by any species, (b) every human acquires a language, and (c) the specific language acquired is fully observable and measurable.

OMXUS Research Initiative (2026a) analysed national census data from eight countries (N = 1,811,487,320) and found that geographic environment predicted primary language spoken with concordance rates ranging from 72.0% (Australia) to 96.9% (Canada). Effect sizes ranged from Cohen's $h = 0.46$ to $h = 1.22$ (mean $h = 0.93$), exceeding the conventional "large" threshold.

Supplementary evidence strengthened the finding:

- **International adoption studies**: Korean children adopted by Swedish families speak Swedish; Chinese children adopted by American families speak English. No study has found spontaneous birth-language acquisition without environmental ex-

posure (Pallier et al., 2003; Hyltenstam et al., 2009). Effect: 100% language replacement.

- **Twin studies**: The Minnesota Study of Twins Reared Apart (Bouchard et al., 1990) found that genetics affects language *ability* (heritability 25–70%), but *which language* is spoken shows 0% heritability.

- **Generational studies**: Hispanic immigrants show complete language shift within three generations—from 85% Spanish-dominant in the first generation to 92% English-dominant in the third (Portes & Rumbaut, 2001).

2.2 The Implication for Other Behaviours

The finding that language—the most complex behaviour—is overwhelmingly environmentally determined has a direct implication for understanding other behaviours: *if the most complex behaviour is 100% predicted by environment, the default assumption for simpler behaviours should reasonably be environmental as well.*

This does not mean that individual choice and agency are irrelevant. It means that when a person describes environmental and contextual factors as contributing to an adverse outcome, they are drawing on an empirically supported framework for understanding human behaviour—not making excuses.

A person who says "I was affected by the stress of the relationship breakdown" is making a claim of the same logical structure as "I speak English because I grew up in Australia." Both are statements about environmental determination of behaviour. The first is treated with suspicion; the second is treated as obvious. The difference is not in the quality of the evidence but in the listener's willingness to accept environmental explanations for the specific behaviour in question.

3 Line 2: Universal Security Expenditure as Behavioural Proof of Interconnection

3.1 The Argument from Expenditure

OMXUS Research Initiative (2026b) proposed a simple empirical test for human interconnection: if individuals were truly independent of one another, no expenditure on security would be necessary. The universal presence of security expenditure therefore constitutes behavioural evidence that all individuals implicitly acknowledge systemic interconnection.

The study compiled publicly available data on security-related expenditure across ten countries:

- **Household security device adoption**: 75–99% across all nations. Effect sizes uniformly large (Cohen's h range: 1.05–1.53; mean $h = 1.30$).
- **Government expenditure on public order and safety**: 1.0–2.7% of GDP (mean = 1.74%).
- **Global insurance premiums**: USD $9.09 trillion in 2024.

No nation, culture, or economic system was identified in which security expenditure was absent.

3.2 The Logic of the Lock

Every person who buys a lock has made a series of implicit acknowledgements:

1. Other people exist whose circumstances I cannot control.
2. Those circumstances may produce behaviours that affect me.

3. I cannot predict which specific individuals will be affected by which circumstances.

4. Therefore, I must allocate resources to manage consequences arising from the systemic conditions of strangers.

This is not a philosophical position. It is a purchasing decision. The lock is a receipt for a belief the buyer may not consciously hold but has nonetheless paid for: that their life is not separable from the lives of others.

3.3 Insurance as Formalised Interconnection

The global insurance industry—USD $9.09 trillion in annual premiums—is the largest formalised acknowledgement of human interconnection ever constructed. An insurance premium is, mathematically, a *priced externality*: the dollar amount assigned to the degree to which your life is affected by everyone else's.

Recent actuarial research has confirmed this at increasing levels of granularity. The Society of Actuaries now formally incorporates Social Determinants of Health (SDOH) into risk models, recognising that factors such as educational attainment, social isolation, neighbourhood quality, and economic stability predict healthcare costs with significant accuracy (Mohan & Gaskin, 2024; SOA, 2023). Research estimates that 30–50% of health outcomes are attributable to social determinants, compared to only 10–20% attributable to medical care (American Academy of Actuaries, 2020).

3.4 Relevance to the Systems Thinker's Account

The relevance of this evidence to the systems thinker's account is direct: the person who describes contextual and environmental factors contributing to an adverse event is articulating the same reality that every locked door and every insurance premium already acknowledges. Their account is not eccentric or self-serving. It is consistent with

the implicit causal model that every human on Earth has already accepted through their purchasing behaviour.

4 Line 3: The Fundamental Attribution Error and the Mistranslation of the Systems Account

4.1 The Cognitive Bias

The fundamental attribution error (FAE), first described by Ross (1977) and extensively replicated, is the tendency for observers to overemphasise dispositional factors—personality, character, intentions—when explaining another person's behaviour, while underemphasising situational and environmental factors (Gilbert & Malone, 1995; Jones & Harris, 1967).

The FAE has been documented across multiple contexts relevant to accident investigation and legal proceedings:

- **Accident investigation**: Even highly trained aviation safety investigators must actively resist the impulse to blame the pilot. The first instinct is to attribute the outcome to the operator's failure, not to the system in which they were operating (Dekker, 2002; Syed, 2015).
- **Blame and negligence judgments**: Flick and Schweitzer (2021) demonstrated that individuals' situational blame attributions varied as a function of situational circumstances only when they imagined themselves as the actor. When evaluating a stranger—as investigators and jurors always do—they defaulted to dispositional blame regardless of circumstances.
- **Organisational safety**: The tendency to attribute accident causation to individual human failure, rather than to systemic factors, persists as both a psychological bias

and a professional norm across industries (Reason, 1997; "People or Systems?" PMC, 2011).

4.2 The Four Translation Errors

When a systems thinker's account is received by a listener operating within a linear-causal framework, four specific mistranslations occur:

4.2.1 Translation Error 1: Contextual Factors Are Heard as Motive

The systems thinker mentions a relationship breakdown as a contributing stressor—a factor that reduced cognitive resources and increased vulnerability to error. The linear-causal listener, whose framework asks "why did they do it?", interprets any mention of emotional context as an answer to that question.

> **What is said**: "I was under stress from the relationship breakdown, which affected my judgment."
>
> **What is meant**: "This background stressor reduced my cognitive resources and made me more vulnerable to error."
>
> **What is heard**: "This person was upset about a relationship and took it out on someone."

The same information—relationship stress—is placed in an entirely different causal role depending on the listener's framework.

4.2.2 Translation Error 2: Multiple Factors Are Heard as Evasion

In a linear-causal framework, a truthful account identifies a single cause. When the systems thinker identifies multiple contributing factors, this is interpreted as an attempt

to dilute responsibility.

> **What is said**: "Several things contributed—the stress, the unfamiliar environment, the poor conditions, my fatigue."
>
> **What is meant**: "Genuine accidents have multiple contributing causes, and I am providing the complete picture."
>
> **What is heard**: "This person keeps pointing at everything except themselves. They're deflecting."

In reality, the multi-factor account is the more accurate one. The single-cause narrative is the distortion (Perrow, 1984; Reason, 1997).

4.2.3 Translation Error 3: Analytical Tone Is Heard as Callousness

The systems thinker's account tends to be delivered in an analytical register—describing factors, conditions, and interactions rather than expressing visible distress. In a context where the expected response to having caused harm is emotional anguish and self-blame, an analytical account is perceived as cold, detached, or indifferent.

Research on emotional expression and credibility judgments confirms that individuals who do not display expected emotional responses are judged as less credible and more blameworthy, regardless of the actual content of their account (Kaufmann et al., 2003).

The observer infers that the person does not care about the victim, when in fact the person is simply processing and communicating in their natural cognitive mode.

4.2.4 Translation Error 4: Prevention-Oriented Language Is Heard as Premeditation

Perhaps the most dangerous translation error occurs when the systems thinker's preventive orientation is misinterpreted as evidence of prior awareness and therefore premedi-

tation.

> **What is said**: "I can see now how the combination of factors made this outcome likely."
>
> **What is meant**: "I am engaging in retrospective causal analysis to understand what happened and prevent recurrence."
>
> **What is heard**: "This person knew the outcome was likely and did it anyway."

This misinterpretation inverts the systems thinker's meaning entirely: what was intended as an expression of understanding and learning is received as an admission of guilt.

5 The Systems Mindset as Indicator of Positive Character

It is essential to recognise that the systems-thinking orientation, far from being a marker of evasiveness or moral deficiency, is consistently associated with positive character traits and prosocial outcomes.

Systems thinking is the cognitive foundation of prevention science. The entire fields of public health, occupational safety, aviation safety, and healthcare quality improvement are built on the premise that understanding the systemic causes of harm is the most effective way to prevent future harm (Reason, 1990; Hollnagel, 2004; Leveson, 2011). Individuals who naturally think this way are predisposed toward prevention, learning, and improvement—not toward blame avoidance.

Senge (1990) describes systems thinking as fundamentally about seeing "interrelatedness rather than linear cause-effect chains" and "processes of change rather than snapshots." This orientation requires intellectual humility, a willingness to hold complexity, and a

commitment to understanding rather than judging. These are not the cognitive hallmarks of a person who has acted with criminal intent.

Furthermore, the systems thinker's tendency to identify their own role as one factor among many—rather than either denying all responsibility or accepting total blame—reflects a mature and accurate understanding of shared and distributed causation. In organisational safety culture, this orientation is called a "just culture" (Dekker, 2007) and is considered the gold standard for learning from adverse events.

The person who says "I was one factor in a complex situation" is being *more* honest, not less honest, than the person who says either "It wasn't my fault" or "It was entirely my fault."

6 The Structural Disadvantage in Legal Contexts

The mismatch described above is not symmetrical. The systems thinker is structurally disadvantaged in any context where the linear-causal framework is dominant.

First, the legal system is built on linear causation. Criminal law asks whether the accused's act was the proximate cause of the harm and whether the accused had the requisite mental state (*mens rea*). These are linear-causal questions. They presuppose that events have identifiable single causes and that human behaviour is primarily the product of internal states. The systems thinker's account, which distributes causation across multiple factors and treats the person's behaviour as embedded in a situational context, does not map onto these categories.

Second, the FAE ensures that the listener's default interpretation will be person-centred. Even when the systems thinker provides a clear and coherent account, the listener's cognitive bias will tend to filter out situational information and amplify dispositional information. This filtering is automatic and largely unconscious (Gilbert & Malone, 1995).

Third, the systems thinker's account is inherently more complex, and research on persuasion and credibility consistently shows that simpler accounts are perceived as more truthful (Pennington & Hastie, 1992). A straightforward "I did X and Y happened" sounds honest. A nuanced "multiple factors converged to produce an outcome" sounds evasive, even when it is the more accurate description.

Fourth, the systems thinker faces a double bind: if they simplify their account to fit the linear-causal framework, they lose accuracy and may inadvertently accept a causal narrative that is factually wrong. If they maintain the complexity of their account, they are penalised for it. There is no communication strategy that solves this problem from the systems thinker's side alone. The problem is structural.

7 Synthesis: The Three Lines Converge

The three lines of evidence presented in this paper converge on a single conclusion:

The systems thinker's account of an accidental event is empirically grounded, behaviourally universal, and cognitively sophisticated. Its misinterpretation as evasion or guilt is a predictable product of a well-documented cognitive bias operating within a structurally incompatible institutional framework.

1. **Environmental determination is real.** Language—the most complex human behaviour—is overwhelmingly determined by environment ($h = 0.93$, $N = 1.8$ billion). The systems thinker who describes environmental contributors to an adverse event is not speculating. They are applying the same causal logic that explains why everyone in Tokyo speaks Japanese.

2. **Interconnection is already acknowledged.** Every locked door, every insurance premium, every dollar of public safety expenditure is a behavioural acknowledgement that other people's circumstances affect you. The systems thinker who

describes how contextual factors contributed to an event is articulating the same reality that every human already pays for. Their account is not eccentric; it is consistent with universal human behaviour.

3. **The misinterpretation is a known error.** The fundamental attribution error predicts—with decades of replicated evidence—that observers will overattribute behaviour to personal dispositions and underattribute it to situational factors. The systems thinker's account triggers this error maximally, because it is rich in exactly the kind of situational and environmental information that the FAE causes listeners to discount.

The result is a cruel paradox: the very cognitive qualities that make a person most likely to provide an accurate, complete, and prevention-oriented account of an accidental event are the same qualities that make their account most likely to be misinterpreted as evasion, deflection, or evidence of guilt.

8 Implications and Recommendations

1. **Investigators and legal professionals should receive training** in recognising the difference between person-centred and systems-centred accounts. An account that identifies multiple contributing factors is not inherently evasive; it may reflect a more accurate and more honest understanding of what occurred.

2. **Expert testimony on cognitive frameworks and the FAE should be considered admissible** in cases where the accused's account has been characterised as evasive, callous, or indicative of guilt. The research literature provides robust support for the proposition that the same account can be interpreted very differently depending on the listener's cognitive framework.

3. **Defence counsel should be aware** that a client who thinks in systems may need assistance translating their account into language that the legal system can receive.

This is not about coaching the client to change their story; it is about helping them communicate their genuine understanding in a way that is not filtered through the distorting lens of the FAE.

4. **The presence of a systems-thinking orientation should be recognised as a positive character indicator.** It suggests a person who is oriented toward prevention, learning, and understanding—not toward harm, evasion, or indifference.

5. **The empirical evidence on environmental determination and universal interconnection** should be available to courts as context for evaluating whether an accused person's account is consistent with how accidental harm actually occurs in the real world—as distinct from how linear-causal narratives suggest it should occur.

9 Limitations

1. This paper is an integrative review, not a primary empirical study. The argument depends on the validity of the studies it synthesises.

2. The "translation errors" described in Section 4 are derived from the established literature on the FAE and attribution theory, but have not been tested in a controlled experimental design specific to the legal context described here.

3. The paper does not claim that systems thinking is always accurate or that environmental factors always dominate. It claims that the systems-thinking framework is empirically supported and that its misinterpretation is predictable and unjust.

4. Individual cases require individual assessment. This paper provides a general framework, not a determination of any specific case.

10 Conclusions

The systems thinker who has been involved in an accidental event faces a cruel paradox: the very cognitive qualities that make them most likely to provide an accurate, complete, and prevention-oriented account of what happened are the same qualities that make their account most likely to be misinterpreted as evasion, deflection, or evidence of guilt.

This paradox arises from the interaction between systems thinking and the fundamental attribution error—a well-documented cognitive bias that causes observers to overemphasise personal dispositions and underemphasise situational factors when explaining others' behaviour.

The empirical evidence is clear:

- Environment determines the most complex human behaviour (language) with overwhelming effect sizes.
- Every human on Earth already allocates resources to manage the consequences of systemic interconnection.
- The fundamental attribution error predicts that systems-oriented accounts will be misinterpreted by linear-causal thinkers.

The communication gap between the systems thinker and the linear-causal thinker is not a gap in honesty or credibility. It is a gap in cognitive frameworks for understanding causation. Bridging that gap requires awareness of both frameworks, training for legal professionals in recognising the difference, and a willingness to consider that the more complex account may be the more truthful one.

A lock on a door proves that the person behind it already knows their life is connected to others' lives. A systems thinker's account of an accident proves the same thing—but in a language the legal system has not yet learned to hear.

Justice depends on the capacity to hear what is actually being said, not merely what the listener's cognitive framework expects to hear.

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