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Human Intelligence in the Era of Artificial Intelligence: Towards Scientific Spirituality and Spiritual Science

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ABSTRACT

This paper revisits the epistemological assumptions that underpin contemporary scientific methodology. As artificial intelligence (AI) increasingly automates domains of rational cognition, the question of what constitutes *human intelligence* has become both urgent and consequential. Although current AI research excels in modelling rationality, optimisation, and pattern recognition, it remains limited in addressing embodied intuition, tacit knowledge, and the spiritual dimensions of lived experience. This paper therefore asks what scientific understandings of the world may have overlooked and presents a multi-year interpretivist enquiry into the nature of human intelligence. Drawing on field encounters with practitioners operating beyond conventional scientific frameworks – including a martial artist, macrobiotic practitioners grounded in East Asian medicine, an energy-based bodywork therapist, and a shaman – the paper explores forms of intelligence that may extend beyond formal cognition.

Keywords: Human intelligence, Artificial intelligence, Epistemology, Methodology, Spirituality, Kansei, Human factors, Design management, Science

INTRODUCTION

This paper is motivated by a concern regarding the dominant and potentially biased modes of 'knowing' constructed within contemporary scientific paradigms. It arises from a growing tension between theoretical rationality and the lived realities of human experience observed in educational institutions and society at large.

Since resigning from a university lectureship in 2021, the author has engaged in sustained fieldwork across diverse social and cultural contexts, travelling extensively around Japan with minimal resources. These lived experiences have led to a critical reflection: human beings often act more emotionally than ethically, more contingently than rationally. In everyday life, doing what is formally 'right' does not always lead to what is situationally appropriate. Practical intelligence may at times exceed formal knowledge. Such encounters have compelled a reconsideration of the limits of what is conventionally recognised as knowledge.

Accordingly, this research-note-style manuscript argues that the core of human intelligence resides not solely in rational cognition, but in embodied, intuitive, and cultivated forms of knowing. It undertakes a critical inquiry

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into the philosophical assumptions upon which contemporary research methodologies are constructed and asks what may have been overlooked within scientific understandings of the world.

To explore this question, the paper briefly outlines selected reflections from fieldwork between 2021 and 2025 in domains outside conventional scientific practice, including martial arts, macrobiotic cooking, Reiki-based body therapy, and shamanic healing. By reframing spirituality as a mode of inquiry rather than belief, and by positioning science as a culturally situated epistemology rather than an absolute authority, the paper seeks to open new directions for future agendas in design and human factors.

WHEN SCIENCE BECOMES A BRIEF SYSTEM

After nearly a decade within academia, the author began to experience a growing sense of dissonance. This unease eventually led to a departure from academic life and to an extended period of travel and field engagement. Through these experiences, a central concern gradually crystallised: modern Western science, while extraordinarily successful in advancing technology, has increasingly come to function as a belief system – one that demands trust without direct embodied verification, at least for the general public. At the same time, many practices historically developed within Eastern cultural contexts – often categorised as 'religion' or 'spirituality' – operate as systematic, practice-based inquiries grounded in bodily experience.

This asymmetry is not merely cultural, but epistemological. It shapes which forms of knowledge are legitimised, shared, and designed into contemporary systems. In design and human factors research, Western scientific rationality has become the default framework through which human intelligence is conceptualised and operationalised. The rapid development of artificial intelligence (AI, hereafter) appears to illuminate the limits of this framework. AI systems excel precisely in the domains most privileged by scientific rationality: abstraction, pattern recognition, optimization, and so forth. As these capacities are increasingly automated, the question of what constitutes *human intelligence* becomes unavoidable. Ultimately, this inquiry extends further – to the question of human existence itself: what do human beings live for? Without confronting this foundational question, technological research risks drifting towards optimisation without orientation; in other words, it can become research for its own sake rather than inquiry anchored in human purpose.

RESEARCH QUESTION

Based on the foregoing philosophical considerations, this paper argues that the current challenge is not only technological but also epistemological. To address this issue, it poses a fundamental question: *What are the limits of scientific ways of knowing the world?* This overarching question is further developed through two sub-questions: *1) On what grounds is evidence-based decision-making assumed to be superior to other forms of decision-making?* and *2) How is 'evidence' defined and validated within scientific practice?*

Situated within the author's long-standing research in design management on emotion, *kansei*, and meaning creation, this paper extends that trajectory by broadening the inquiry into what it means to be human. In doing so, it seeks to articulate a coherent yet under-theorised dimension of human intelligence that precedes rational cognition. These often marginalised dimensions should not be dismissed as peripheral residues of cognition, but rather as central qualities of human existence. Addressing this shift requires not merely new technological tools but a reconsideration of the epistemological foundations underpinning human factors and design research.

METHODOLOGICAL CONSIDERATION: RISEI AND KANSEI AS EPISTEMOLOGICAL MODE

Human intelligence is not reducible to the efficient production of correct outcomes; rather, it involves the cultivation of dispositions that sustain judgement, resilience, and creativity over time. The author's previous research on emotion, *kansei*, and the benefit of inconvenience has consistently pointed to these dimensions (Cf. Shigemoto, 2022; 2021; 2020; 2019; 2017; Shigemoto and Kawakami, 2019). For instance, Roger Martin characterises design thinking as an integration of logical and intuitive modes of thought (Martin, 2009). Yet the epistemic status of intuition remains under-examined: from where does it arise, and how is it cultivated?

To articulate these domains, this paper employs two conceptual terms: *risei* and *kansei*. *Risei* refers to rational and analytical cognition, primarily associated with the brain. It underpins modern Western scientific methodology and represents the domain in which artificial intelligence excels. *Kansei*, by contrast, refers to embodied, intuitive, and affective modes of knowing – thinking through the body rather than merely about it. Although often dismissed as subjective, *kansei*-based knowing is cultivated systematically through disciplined practice and repetition.

Put differently, *risei* may be understood as the capacity to think with the head, whereas *kansei* may be understood as the capacity to think with the body. The deliberate retention of these Japanese terms seeks to preserve their conceptual nuance, which risks being flattened when translated into approximate English equivalents. At the same time, this paper aims to render these notions intelligible within English-language academic discourse.

A key epistemological distinction lies in the locus of reproducibility. Western science privileges reproducibility across observers through objectification and standardisation. *Kansei*-based practices – for example, Zen meditation or yogic breathing – often cultivate reproducibility within the individual through embodied training. The difference is not one of rigour but of orientation. This divergence helps explain why such practices are frequently excluded from scientific legitimacy despite their internal coherence and disciplined methodology.

Importantly, the purpose here is not to establish a hierarchy between *risei* and *kansei*, nor between Western science and Eastern practices, but to recognise their complementarity. It is through their dynamic integration that *chisei* – human intellect understood as embodied, relational, and cultivated – emerges.

FIELD WORKS

Fieldwork A: Martial Arts and Pre-Rational Intelligence

Fieldwork in martial arts reveals a form of intelligence that operates prior to conscious deliberation. Posture, balance, breathing, and spatial awareness are cultivated to such a degree that action emerges immediately in response to the environment. In martial contexts, consciousness may can prove fatal, particularly in historical combat settings.

Even when physical postures and movements are precisely replicated between master and disciple, subtle differences in bodily awareness and internal orientation can produce profoundly different outcomes. The placement of attention within the body – where and how awareness is grounded – fundamentally shapes action.

This pre-rational mode of intelligence cannot be reduced to explicit rules or fully captured through observable technique. It resembles a language intelligible only to those who have cultivated the requisite embodied sensitivity through sustained practice and disciplined introspection.

Fieldwork B: Macrobiotics and Relational Intelligence

Fieldwork in macrobiotics, a school of cookery grounded in Oriental medicine and ecological thought, introduces a distinct way of understanding the world. As its name suggests, *macro-bios*, or 'great life', refers to a conception of human existence situated within the broader ecology of Earth and cosmos. Macrobiotics is therefore not merely a culinary practice, but an applied philosophy that treats food as an interface through which human capability is cultivated over time.

The foundational grammar of this system is yin and yang. All phenomena are understood as relatively *yin* (expansive) or *yang* (contractive), and health is conceived as the dynamic pursuit of a balanced middle course. Excessive yin or excessive yang manifests as disturbance in body and mind. Because the human body is continually formed through ingestion, dietary practice becomes a primary site for restoring equilibrium.

A further principle underlying macrobiotics is the relativity of all phenomena. Everything is perceived in relation to yin and yang; no entity exists as absolute or self-contained. This relational ontology implies that balance is always contextual, and decision-making cannot rely solely on fixed external criteria. Judgment requires attunement to one's own condition and intention.

This contextuality also introduces a further difficulty: the problem of totality. When the whole changes, the parts must adjust; when a part changes, the whole is affected. The whole is not reducible to the sum of its components, but constitutes a relational field within which parts acquire their meaning. It is a dynamic configuration that both shapes and is shaped by its elements. Macrobiotic intelligence therefore consists in perceiving and responding to these reciprocal dynamics across scales of life through *kansei*, grounded in the relational logic of *yin* and *yang*.

Fieldwork C: Energetic Bodywork and Tacit Forms of Intelligence

Fieldwork in Japanese traditional Miza Therapy introduces a domain of practice that resists straightforward categorisation within biomedical

frameworks. At a descriptive level, the practice may appear to combine elements resembling Reiki healing and chiropractic adjustment. However, practitioners articulate their work in terms of regulating subtle energetic dimensions of embodiment.

From an interpretivist and exploratory research perspective, the aim is not to adjudicate the ontological status of such claims, but to understand how participants experience and interpret them. The author initially approached the practice with skepticism. Yet during treatment sessions that involved no physical manipulation, the author's persistent bodily discomfort, including heaviness in the shoulders, stiffness, headaches, and mood disturbance, diminished significantly. Alongside this shift, a heightened sense of vitality and embodied presence emerged, together with increased physical flexibility. Whether understood through energetic, psychosomatic, or phenomenological frameworks, the experience itself remained difficult to dismiss.

Subsequent dialogue with practitioners situates these interventions within a cosmology involving gratitude toward ancestral and spiritual forces and the purification of multiple layers of embodiment. Rather than treating such explanations as empirical claims to be confirmed or rejected, this study approaches them as meaningful interpretive systems through which participants organise experience.

Fieldwork D: Shamanic Practice and Integrative Embodied Intelligence

Shamanic healing practices encountered in fieldwork operate through somatic and affective experience rather than symbolic belief. The practice integrates a wide range of indigenous traditions, including Tantra and Sutra-based philosophy, chakra systems from India, Chinese cosmology and divination, Tibetan esoteric Buddhism, sacred geometry, mineralogy, and indigenous shamanic traditions from Native American and Aboriginal contexts. Rather than adhering to a single lineage, the approach represents a personal synthesis developed through lived experimentation and spiritual inquiry.

From the author's experiential perspective, the figure of the shaman appeared less as a mystical anomaly and more as an integrative cultural intelligence. The practitioner demonstrated extensive intercultural and humanistic knowledge acquired through direct engagement with diverse traditions across the world. At the same time, the practice drew upon detailed ecological and material knowledge, including the behaviour of plants and animals, the properties of minerals, and the geometric structures of crystals. Such knowledge was not presented as abstract information, but as practically deployable understanding.

In this sense, what is culturally recognised as 'shamanic power' may be understood as the capacity to synthesise cultural insight, ecological observation, and embodied practice into a coherent mode of action. The authority historically associated with shamanic figures may therefore derive from this integrative competence rather than from supernatural attribution alone.

Synthesis: Connecting Fieldwork and Inquiry

This chapter concludes by clarifying the following points:

1. **that the argument is not anti-scientific, but concerns the scope and limits of current methodologies;**
2. **that embodied and intuitive forms of knowing are proposed as researchable phenomena, not as unquestioned truths; and**
3. **that the notion of science as 'culturally situated' is intended as an analytical perspective rather than a normative claim.**

Without such reflexivity, scientific methodology itself risks becoming a closed system of belief rather than an open mode of inquiry.

DISCUSSION

Creativity as Integrative Intelligence

From an interpretivist perspective, the fieldwork encounter generated a striking sense of convergence. Previously distinct lines of inquiry – including martial arts, Macrobiotics, Miza Therapy, shamanic practice, and structural concepts such as tensegrity in design studies – appeared to crystallise within a single experiential field.

This convergence reshaped the author's understanding of art and creativity. True art was encountered not merely as aesthetic production, but as the crystallisation of integrated life energy capable of generating observable changes in bodily organisation. When engaging with works imbued with profound personal investment – such as fine art or traditional craftsmanship – measurable shifts in posture and stability were observed. The author and others experienced a more grounded centre of gravity and increased resistance to applied pressure. Whether interpreted through energetic, neuromuscular, psychosomatic, or phenomenological frameworks, the embodied effects were concrete.

In this sense, creativity was experienced as the activation of a vital integrative force arising from the alignment of perception, embodiment, and intention. Within this framework, art appeared generative rather than representational. Authentic artistic creation seemed capable of reorganising bodily coherence, not only in the artist but potentially in those who encountered the work.

Implications for Design, Human Factors and AI

The experiences presented above have been documented through qualitative observation grounded in an interpretivist research orientation. While exploratory in nature, this paper proposes a preliminary hypothesis: human intelligence is layered.

1. **Cognitive intelligence** (formal, explicit, computable)
2. **Emotional intelligence** (affective, relational)
3. **Embodied intelligence** (sensory, kinetic, body-mediated consciousness)
4. **Spiritual intelligence** (attunement to subtle forms of energy or resonance that are experientially felt yet remain difficult to articulate or conceptualise)

These multiple forms of intelligence may resist scientific objectification yet remain essential to human life. These forms are not anti-scientific; rather, they extend beyond the methodological scope of contemporary science. While a full theoretical articulation remains beyond the scope of this paper, on this basis, several implications may be considered for design research and practice.

Towards New Epistemic Frontiers

The author would like to clarify that the intention of this paper is not to reject scientific paradigms nor to claim that all forms of lived experience should be considered as knowledge without examination. Rather, the aim is to highlight that certain dimensions of human intelligence – particularly embodied, intuitive, and cultivated forms of knowing – may remain underexplored within current scientific frameworks.

Accordingly, this paper does not claim that the philosophical assumptions underlying contemporary research methodologies are 'incorrect.' Rather, it suggests that they may be partial, and that complementary modes of knowing could enrich ongoing research in design, human factors, and AI. The intention is therefore not to redefine science in opposition to itself, but to invite a reflexive expansion of its epistemological scope.

Having been trained within scientific inquiry through higher education and research, I have developed a strong understanding of – and sympathy for – the position that 'lived realities' and 'practical intelligence' should not be omitted, but ought to undergo scientific examination in order to be recognised as 'knowledge'. At the same time, this very scholarly trajectory has led me to reflect on the limits of this stance, particularly through my immersion in lived experience. In this regard, the author appreciates that this paper has been read through an interpretivist research perspective.

The recognitional gap may arise from differing assumptions about what counts as 'scientific examination,' particularly in relation to observation. Scientific observation is often implicitly equated with visualisation – that which can be rendered visible, measurable, and externally verifiable. Yet this equation is not self-evident. In many Eastern and practice-based traditions, 'seeing' the world does not primarily refer to visual inspection, but to forms of embodied attunement cultivated through practice. What is known is not always what is seen. The divergence, therefore, is not one of rigour, but of epistemic orientation. This suggests that the limits of knowledge may not lie in the phenomena themselves, but in the modes through which they are observed.

In closing, the intention here is not to provoke a confrontation with existing scientific paradigms. Rather, it is to ask to what extent contemporary science – and those who practice it – are willing to remain open to, approach with curiosity, and thoughtfully engage with alternative modes of observing and understanding the world. It is the author's hope that such engagement may not lead to division, but instead to a shared exploration of new epistemic frontiers.

CONCLUSION

This paper began with a concern regarding the dominance of scientific rationality as the primary mode of legitimate knowledge in contemporary research and design. To address this concern, two concepts have been introduced: *risei* (rational and analytical cognition) and *kansei* (embodied, intuitive, and affective modes of knowing), which highlight differing epistemological orientations.

Through these modes, combined with philosophical reflection and interpretivist fieldwork across martial arts, macrobiotics, energetic bodywork, and shamanic practice, the paper has explored forms of intelligence that may precede or extend beyond formal cognition, pointing toward a broader understanding of human intelligence as relational, cultivated, and contextually grounded.

For design and human factors research, the implication is not to reject science, but to widen its frame. In light of the four forms of human intelligence proposed here, the future of socio-technical systems may depend not only on computational advancement but on clarifying which forms of intelligence we choose to cultivate.

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