

INSIGHTS

Nāmarūpa in Buddhist Thought and Human-Centered AI

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Introduction: Nāmarūpa as a Foundational Concept

Nāmarūpa, meaning “name and form,” is a core concept in Buddhist philosophy that refers to the interdependence of mental and physical phenomena (Ñāṇamoli & Bodhi, 1995). It is most prominently featured as the fifth link in the twelvefold chain of paṭiccasamuppāda (dependent origination) (Bodhi, 2003), as seen in early texts such as Dīgha Nikāya 15. In this context, nāmarūpa arises in mutual dependence with consciousness (viññāṇa), illustrating a dynamic feedback loop between mind and body.

Philosophical and Psychological Dimensions

According to canonical definition, nāma (name) broadly refers to mental phenomena. These are not static mental substances but conditioned, co-arising events that occur moment to moment (Gethin, 1992). Rūpa (form) refers to material form, typically analyzed in terms of the four great elements (earth, water, fire, air) and their derived forms (Bodhi, 2000).

In Abhidhamma philosophy, nāmarūpa is analyzed through a taxonomy of ultimate realities (paramattha dhammas), emphasizing the impermanence and conditioned nature of all phenomena (Harvey, 1995). Theravāda Buddhist psychology sees nāmarūpa as a dynamic process, where the illusion of a fixed self arises from rapidly changing mental (nāma) and physical (rūpa) events, much like data inputs shaping a model’s real-time output. This insight supports the development of mindfulness, ethical behavior, and the pursuit of liberation (nibbāna).

Nāmarūpa as Logic and Ethics

Nāmarūpa integrates both logical and ethical dimensions. Logically, it presents a relational ontology in which entities do not exist independently but arise through conditions. These challenges fixed, binary frameworks and supports a view of reality based on fluid, interdependent processes.

Ethically, the presence of *cetanā* (volition) within *nāma* makes each act of cognition morally significant. Since intention determines karmic weight, how we perceive and categorize the world is ethically charged. Cognition, therefore, is not neutral but shaped by mental states and ethical awareness.

Implications for Human-Centered AI

The insights derived from *nāmarūpa* offer a compelling framework for designing AI systems that are not only functional but also deeply human-centered. These insights can be grouped into four major design principles: contextual representation, process orientation, embodiment, and ethical accountability.

A. Contextual and Dynamic Representation

Nāmarūpa teaches that experience arises through ever-changing conditions. Similarly, AI systems should be responsive to dynamic environments rather than rely on fixed, static categories. Designing AI to recognize cultural, social, and situational contexts allows for systems that better reflect the fluidity of human experience. Context-aware systems can make more sensitive and meaningful decisions, aligning more closely with real-world complexity.

B. Process-Oriented and Relational Design

Rather than being based on rigid ontologies or abstract hierarchies, *nāmarūpa* emphasizes interdependence and co-arising processes. Translating this into AI, systems should prioritize relationships, adaptability, and the co-formation of meaning. A process-oriented approach allows AI to model human behavior and identity in a more dynamic and relational way, improving its relevance and ethical alignment.

C. Embodied Cognition and Inclusive Interfaces

Nāmarūpa underscores the inseparability of mind and body, reminding us that cognition is shaped not just by thought but also by emotional, sensory, and physical engagement (Clark, 2016). Human-centered AI should reflect this by designing interfaces that respect and

support embodied interaction. This includes multi-modal input, affective responsiveness, and ergonomic design features that resonate with how humans naturally perceive and act.

D. Ethical Transparency and Humility

Nāmarūpa highlights the ethical significance of volition (*cetanā*), placing moral weight on intention. In AI, this translates into the need for transparent design goals and accountability for algorithmic behavior (Dignum, 2019). Developers must consider not only what a system does, but why and how it is programmed to do so. Recognizing the impermanent and interconnected nature of technological impacts also encourages ethical humility, a mindset that supports participatory design, ongoing reflection, and a commitment to protecting human dignity over efficiency or convenience (Benjamin, 2019).

Toward Ethical and Relational AI

The Buddhist concept of *nāmarūpa* offers more than a philosophical abstraction; it provides a practical and ethical framework for shaping emerging technologies. By emphasizing the interdependent nature of experience, it challenges AI developers to move beyond reductionist and static approaches. In place of rigid categories and deterministic logic, *nāmarūpa* encourages a view of reality as fluid, contextual, and dynamically co-constructed.

This perspective is especially relevant in an era where AI increasingly influences decision-making in sensitive domains such as healthcare, education, governance, and justice. Grounding AI development in the principles derived from *nāmarūpa* allows for systems that are not only intelligent but also wise, capable of understanding nuance, adapting to lived experience, and aligning with human values.

Moreover, the moral dimension embedded in *nāmarūpa* through the factor of volition (*cetanā*) reminds us that design choices are never neutral. Every aspect of how an AI system perceives, categorizes, and responds to the world carries ethical weight. By acknowledging this, developers are better equipped to take responsibility for the societal impacts of their work.

Finally, *nāmarūpa* fosters ethical humility. Recognizing the impermanence and interdependence of all things, it calls for a cautious, reflective, and participatory approach to innovation, one that respects the dignity of human life and remains open to ongoing dialogue and revision.

Conclusion

Nāmarūpa, as interpreted through Buddhist logic and ethics, offers a profound and timely lens through which to reimagine AI development. Its teachings invite a reorientation away from control and predictability toward interdependence, intentionality, and moral responsibility. As AI continues to evolve, these values can serve as a compass for ensuring

that technological progress supports, not undermines, the flourishing of human life and society.

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