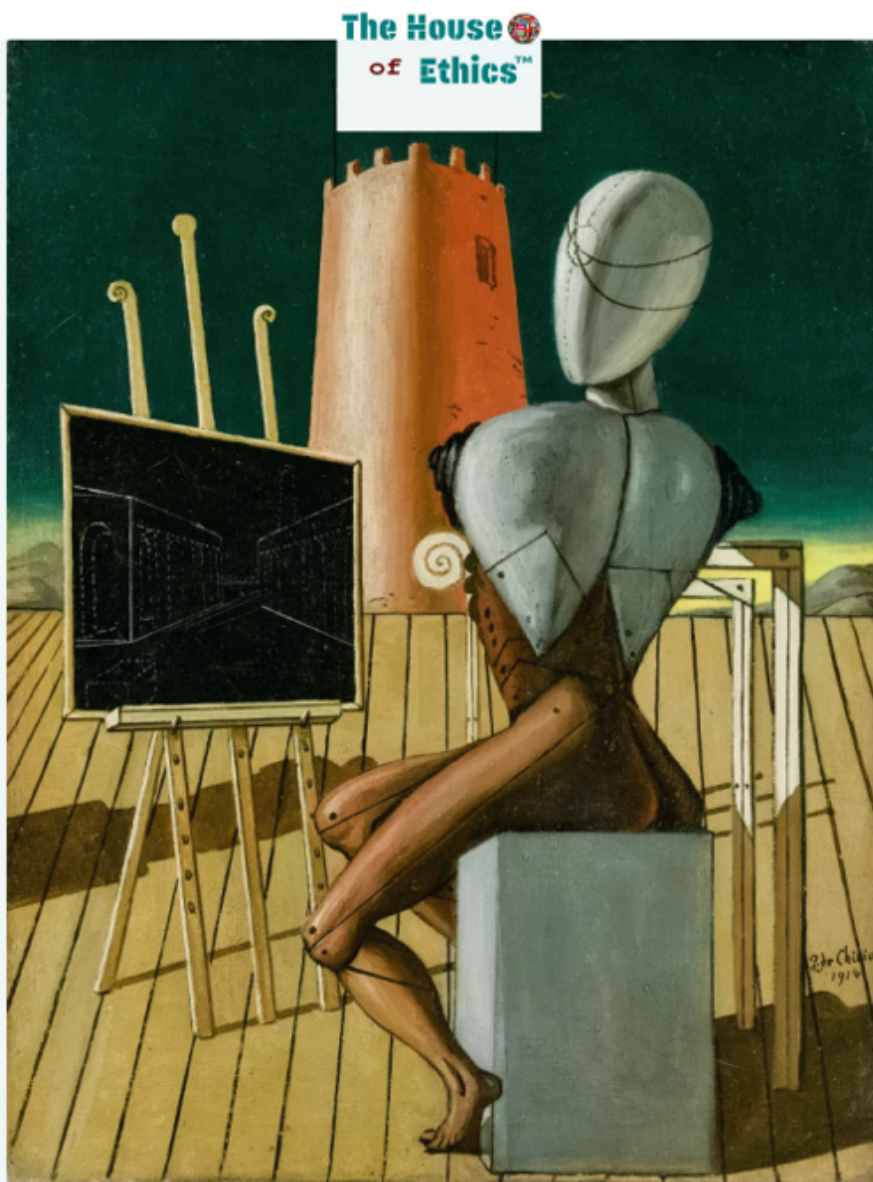# BEYOND TRADITIONAL NORMATIVITY

Part 1- Syngnostic Norms: Beyond Prescriptive and Descriptive Norms

Part 2 - Syngnostic Norms and Swarm Ethics

Daniele PROBERBIO and Katja RAUSCH

Giorgio de Chirico, Il vaticinatore. 1914.

BEYOND TRADITIONAL NORMATIVITY

Part 1 - Syngnostic Norms: Beyond Prescriptive and Descriptive Norms

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In cyber-physical times, an increasingly complex web of social and moral norms govern everyday personal and professional behavior and decision-making. We experience a multitude of different and conflicting norms and ethics, which coexist and collide at high speed and large-scale - from rules, to laws, to principles, to codes of conduct or netiquettes. Such norms are multi-source and explicitly or implicitly linked to cultural traditions, social institutions, religious beliefs, or philosophical frameworks. They help create social cohesiveness and support a system of shared expectations that shape identities, values and behavior at both a societal and individual level. But how to make sense of them?

A long-standing concept is that of linear normativity[1]; in this first article of two, we describe how it falls short in the digital age. We challenge the consequential three-phase process of norm emergence, cascade and internalization as described by Finnemore and Sikkink in 1998, relatively resulting in persuasion, socialization and conformity, proving it incomplete in cyber-physical times. In fact, it neglects typical systemic dynamics of non-linear hyperconnectivity, uncertainty and unpredictability of the so-called VUCA (volatile, uncertain, complex and ambiguous) world.

From early anthropology and philosophy, norms and ethics have been endemic to humans. However, both are social constructs[2] and thus subject to individual and collective dynamics influencing their emergence, transmission and adoption overtime, from individuals to small groups, to medium communities and large-sized societies, on- and offline. This article aims at clarifying the need to go beyond.

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[1] Finnemore and Sikkink's "norm life cycle": Finnemore, Martha, and Kathryn Sikkink. "International norm dynamics and political change." *International organization* 52.4 (1998): 887-917.

[2] Proverbio, Daniele. "What if ethics does not exist?". House of Ethics (2021), https://www.houseofethics.lu/2021/11/11/what-if-ethics-does-not-exist/

EMERGING NEW PATTERNS OF NORMATIVITY

Traditionally, the emergence of norms has been assigned to cognitive and individual-level small community interactions; only by the end of 1800, it began being described as a functional, society-level phenomenon and process[3]. Overtime, a bipolar system crystallized into universal meta-norms shapers: prescriptive or descriptive norms.

Norms were initially considered a practical method of organizing members within groups, by attributing roles and effectively distributing resources to secure the survival of a social system. However, they now seem to fall short of their original connectedness to people. In liberal and open societies, they are progressively viewed as brakes and superspreaders of confusion.

The "primitive" character of norms has been overruled by latent "hyper-normatisation" as much as ethics has suffered from "hyper-instrumentalisation" - distancing both disciplines from people and purpose. It resulted in counterproductive, confusing normative and ethical constructs overshadowing their original, organic, fluid and biological constituencies and effectiveness. But - luckily - it spurred empirically-oriented research directions with applied intentions to embed sustainability and governance at corporate levels[4].

This tension drove a body of modern research to suggest a return to the "original" approach by concentrating on people over concepts, observing how different classes of behavioral patterns arise and emerge beyond cognitive classifications and conceptualizations. Key examples are the cross-cultural studies by Hauser[5], the anthropological work on nonhuman primates by anthropologist Frans de Waal[6], as well as recent digital anthropology findings by Boellstorff[7]. The resulting novel, interdisciplinary and integrative landscape views emergence, transmission and adoption of norms and ethics as the results of collective interactions of beliefs, expectations, ideas and opinions occurring in an unpredictable, non-linear modus at high-speed and large-scale.

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[3] Durkheim, Émile. "Les règles de la méthode sociologique." *Revue Philosophique de la France et de l'Étranger* 37 (1894): 465-498.

[4] Seele, Peter. "Business ethics without philosophers? Evidence for and implications of the shift from applied philosophers to business scholars on the editorial boards of business ethics journals." *Metaphilosophy* 47.1 (2016): 75-91.

[5] Hauser, Marc. *Moral minds: How nature designed our universal sense of right and wrong*. Ecco/HarperCollins Publishers (2006).

[6] de Waal, Frans HG. *Primates and philosophers: How morality evolved*. Princeton University Press (2006).

[7] Boellstorff, Tom. "Digital Anthropology" (2nd ed.). California: Routledge (2021)

FROM ABSOLUTE TO INCREMENTAL

Similarly, traditional Western normative consequentialist, deontological and virtue ethics have been trapped in their own static and closed system, struggling to keep pace with complex

and challenging modern digital times. Norms, social as well as ethical, have suffered from a gradual erosion of their absolute and universal status[8]. Nowadays, emerging and merging pluri-cultural and international cyber-physical networks, built on high-frequency connectedness, raise the question whether universal ethical and social norms are still at the epicenter of the so-called "global village"[9].

In a world of data and patterns, multiple forms and formulations coexists and ethical debates move from cognitive and normative dissonance to "ethical dissonance"[10]. Deviance or non-conformism are no longer understood as such but have become integral parts of opposing and contradicting realities coexisting in global and multi-normative nodes.

This tension is also reflected at the institutional level, where interest clashes fuel opposing instances on hot topics like sustainability and AI. A recent example was the ongoing international meandering for drafting the AI EU Act: on the one hand, the open letter by international experts calling on the Council of the European Union for stricter regulations in the AI EU Act, and use AI systems under law enforcement, migration control and national security[11]. On the other hand, an open letter by 150 European companies[12] claiming the EU AI Act could "jeopardize technological sovereignty" and how "the EU AI Act, in its current form, has catastrophic implications for European competitiveness". This is not just limited to lobby interests, but has profound implications in the ethical shaping of EU norms. Thus affecting the higher grounds of human rights traditionally being viewed as absolute norms, but disregarded more so often. Shall we then intervene with top-down and normative-informed regulations, or leave the stage to governance and short-term social actions guiding bottom-up empirical norming?

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[8] Panke, Diana, and Ulrich Petersohn. "Why international norms disappear sometimes." *European journal of international relations* 18.4 (2012): 719-742.

[9] McLuhan, Marshall, and Bruce R. Powers. *The global village: Transformations in world life and media in the 21st century*. Communication and society (1989).

[10] Katja Rausch. "Ethical Dissonance", House of Ethics (2023).

[11] AA.VV., "EU policymakers: regulate police technology!" (2023), https://edri.org/wp-content/uploads/2023/09/Regulate-police-technology-EU-AI-Act-Statement-19-September.pdf

[12] AA.VV., "Open letter to the representatives of the European Commission, the European Council and the European Parliament" (2023), https://drive.google.com/file/d/1wrtxfvcD9FwfNfWGDL37Q6Nd8wBKXCkn/view

SYNGNOSTIC NORMS or "AGILE PURPOSE NORMS"

To offer a fresh perspective on the challenges discussed, we may look at the emergence of norms, social and ethical, as an interplay of cognitive and polysensory intelligences from a collective and decentralized perspective. We pose the question of whether "breaking" norms bears significance in a transformational world, where merging and mixing turn into an integral step of "shaping" norms and create new patterns of fluidity and flexibility. We thus argue that "traditional" and linear normativity is not enough, and that the traditional bipolar category of descriptive and prescriptive norms needs to be complemented by something more.

Beyond traditional prescriptive norms, which directs behavior by principles, and descriptive norms, that explain behaviour in practice[13], we suggest reshaping the bipolar nomenclature to a novel normative tricycle by including **syngnostic norms**. Normativity needs a novel category that focuses on behavior responding to "agile purpose norms". Rather than focusing on top-down or bottom-up approaches, syngnosis focuses on the constant flux and updates from those two extremes.

Syngnostic norms embrace the idea of *Gnosis[14],* referring to human knowledge based on personal experience or perceived knowledge of humanity. In recognising the role of interactions, on top of individual status, it reflects the need to include hyperconnectedness, polysensory intelligence and collective intelligence in norms and ethics shaping. A syngnostic approach underscores the "shared interest in designing or, rather, in 'meta-designing' synergistic societies of the future. This quest is inspired by a need to care for the biosphere in a more respectful manner."[15] In practice, a "synergy of synergies", which results in collective organic understanding where perspectives, values and norms cumulate into a new meaning, new norms, new ethics and new behaviours, instead of telescoping each other.

In this perspective, syngnostic norms naturally talk with the concept of Swarm Ethics[16]. In the next article of two, we will deep dive into this synergy, and discuss the profound implications for ethical thinking and actionable practice.

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[13] Miller, Dale T., and Deborah A. Prentice. "The construction of social norms and standards." (1996).
Cialdini, Robert B., Carl A. Kallgren, and Raymond R. Reno. "A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior." *Advances in experimental social psychology*. Vol. 24. Academic Press (1991). 201-234.

[14] Green, Henry A., "Gnosis and Gnosticism: A Study in Methodology", Numen, Vol. 24, (Aug., 1977).

[15] Wood, John, and Otto van Nieuwenhuijze, "Synergy & Sympoiesis in the Writing of Joint Papers", International Journal of Computing Anticipatory Systems, Volume 10, pp. 87-102, August 2006.

[16] Rausch, Katja and Proverbio, Daniele. "Swarm Ethics: A new Collective and Decentralized Purpose-Driven Ethics in the Digital Age", House of Ethics (2022).
https://www.houseofethics.lu/2022/09/23/from-swarm-intelligence-to-swarm-ethics-a-new-collective-purpose-driven-ethics/

BEYOND TRADITIONAL NORMATIVITY

Part 2 - Beyond the Prescriptive: Syngnostic Norms and Swarm Ethics

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In our first article of two, we have challenged traditional normativity and the linear perspective of classical Western ethics. In particular, we have concluded that the traditional bipolar category of descriptive and prescriptive norms needs to be augmented by a third category, syngnostic norms.

Building on the hook about the synergies of syngnostic norms and Swarm Ethics[17], we here better clarify this novel concept, and suggest actionable alternatives to the traditional view. We will show how Swarm Ethics can help us make a step forward, as an ethical framework of emerging and systemic ethics, as opposed to hard-coded, cognitive traditional Western ethics.

SWARMS AND COLLECTIVE BEHAVIORS

Swarm Ethics builds on the concepts of "swarms"[18]. These are understood as collections of single individuals, able to perform complex tasks through self-organization. In its origin, the discipline of swarm intelligence was developed as a field of complex systems studying groups of natural or artificial entities[19]. Recently, the idea of self-organizing societies[20] and emerging social models inspired a synecdoche into "Swarm ethics", to signify emerging ethics from interacting humans. Swarms build on circularity, as they evolve according to the same interactions that are shaped by their evolution.

Swarm Ethics emerges from swarms in action. As they thrive dynamically, beholders may recognise common patterns and measure alignment of opinions and guiding principles.

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[17] Rausch, Katja and Proverbio, Daniele. "Swarm Ethics: A new Collective and Decentralized Purpose-Driven Ethics in the Digital Age", House of Ethics (2022). https://www.houseofethics.lu/2022/09/23/from-swarm-intelligence-to-swarm-ethics-a-new-collective-purpose-driven-ethics/

[18] Proverbio, Daniele. "Ethics in the Swarm: self-coordinating opinions and emergence". Swarm Ethics (2023)

[19] Kennedy, James. "Swarm intelligence." Handbook of nature-inspired and innovative computing: integrating classical models with emerging technologies. Boston, MA: Springer US, 2006. 187-219.

[20] Helbing, Dirk, "Social self-organization: Agent-based simulations and experiments to study emergent social behaviour". Springer, 2012.

Studying the "dispersion" of principles and "lifting" the most representative ones constitutes the starting point to construct ethical norms, defined *post-hoc*. By feeding back this information into the swarm, such "ethical" principles skew the distribution of principles and become part of the set of underlying principles and values, driving swarms by providing interaction purposes and shaping goals and constraints.

This process goes beyond the exclusivity of normativity or the fuzziness of empiricism. An inclusive guiding principle of "**act to maximize the inclusion into swarms**" opens the breadth of potential swarming participants, by connecting the world. Swarming networks become bigger, more heterogeneous and dynamic. Then, it brings an ever-changing intersection of values and principles. More than relativism (where multiple ethical sets are recognised but remain separate, like oil and water), the modern era is characterized by mixing and intersecting boundaries (like pouring sugar into water and never separating them again). Globalization, world-wide travels and business, the Internet – it all concurs[21].

Under this perspective, the participants of a collective swarm do not surrender their viewpoints or compromise their perspectives. On the contrary, as syngnostic normativity adds perspectives, they offers new meaning in new contexts. As syngnosticism is based on an inclusive and unifying belief system, syngnostic norms add a systemic and collective layer to normativity that lack both descriptive and prescriptive norms. Hence, syngostic norms bridge to and are explained by Swarm Ethics to effectively form a dynamic system of emergence, transmission and adoption of social and ethical norms.

Consequently, following Ullman-Margalit, "norms are, rather, the resultant of complex patterns of behaviour of a large number of people over a protracted period of time"[22]. Contrary to rules, norms do not emerge fully formed. "Logic appropriateness" or deontic logic are needed as underlined by James March and Johan Olsen (1989)[23]. This is where Swarm Ethics acts as a catalyst to shaping emerging ethics and emerging norms by naturally gauging towards a mean of morals spurred by the power of swarm intelligence. In hyperconnected, transgenerational open and mostly cyber-physical systems where the frequency and intensity of interactions are facilitated and multiplied (not added), the emergence, transmission and adoption of norms should be considered as a radically swift transformation[24].

HOW SYSTEMIC SWARM ETHICS ACTS AS CATALYST TO SYNGNOSTIC NORMS

Social norms are part of a larger motivational system. They do not exist in isolation, but rather form systems of complementary and competing pressures on behaviour. This approach coincides with Swarm Ethics principles, where people are no longer viewed as singletons but as integral parts of wider open hyperconnected systems. Systems comprise not only social norms but other types of motives as well, including needs, goals, values, and material incentives; all of

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[21] Percacci and Vespignani. "Scale-free behaviour of the Internet global performance." The European Physical Journal 32 (2003): 411-414.

[22] Ullman-Margalit, "The Emergence of Norms", Oxford University Press (1977).

[23] March, James G., and Johan P. Olsen. "The institutional dynamics of international political orders." *International organization* 52.4 (1998): 943-969.

[24] Labov, William. "Transmission and diffusion." *Language* 83.2 (2007): 344-387..

these forces act in concert to determine individual behaviour and collective intelligence. Thus, the consequences of strengthening or weakening a particular norm depends on what other forces are operating within the system.

The traditional approach to normativity has always emphasized a dual individual internal cognitive functional and external structural level. Our theory of novel syngostic norms adds a crucial layer to emergence, transmission and adoption of norms: the cyber-physical intersection (CPI). It challenges the traditional idea of an absolute, consequential and latent norms process - similarly to how traditional cognitive ethics is challenged by Swarm Ethics. Polysensory catalysts[25] and multiple intelligences of Swarm Ethics are keys to new syngnostic normativity.

We are building on recent discoveries. In 2017, research by Ho et al. has shown how moral norms develop and are transmitted through social interactions and relationships[26]. The interconnectedness of agents is crucial in psychological dynamics that occur within groups. Mutuality, reciprocity and imitation are drivers for ethical and norm emergence. Tangney, Stuewig, & Mashek [27] go even as far as calling it moral emotions that influence compliance to norms. Insofar, emotional experiences can sustain one's own compliance with moral norms and motivate enforcement of norm compliance in others as shown by Dunning, Fetchenhauer, & Schlösser[28]. Consequently, this emphasizes the important role of self-regulation and individual responsibility as autonomous agents in a multi-agent system.

And we echo the pioneering cyberneticist Heinz von Foerster's epistemology of the "ethical imperative" overcoming linear and traditional dualistic normative thinking and acting: "Always try to act so as to increase the number of choices."[29] Both ethics and normativity need to undergo a paradigm shift to stay effective and sustainable overtime and avoid being outpaced by overruling technological accelerations infiltrating society, business and people. The systemic worldwide infiltration by generative AI is one such phenomenon shaking up social norms and ethics.

IN CONCLUSION

In pluri-cultural and cyber-physical networks, different classes of behavioural patterns and norms can arise. We might be at a tipping point to investigate and find alternatives to traditional normativity or ethical behaviours, bridging normativity with complex systems disciplines - like the behavioural economic games theory[30] where individuals anticipate, infer,

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[25] Rausch, Katja and Proverbio, Daniele. "Swarm Ethics: A new Collective and Decentralized Purpose-Driven Ethics in the Digital Age", House of Ethics (2022).

[26] Ho, Mark K., et al. "Social is special: A normative framework for teaching with and learning from evaluative feedback." *Cognition* 167 (2017): 91-106.

[27] Tangney, June Price, Jeff Stuewig, and Debra J. Mashek. "Moral emotions and moral behaviour." *Annu. Rev. Psychol.* 58 (2007): 345-372.

[28] Dunning, David, Detlef Fetchenhauer, and Thomas M. Schlösser. "Trust as a social and emotional act: Noneconomic considerations in trust behaviour." *Journal of Economic Psychology* 33.3 (2012): 686-694.

[29] von Foerster, Heinz. "Ethics and second-order cybernetics", in *Understanding Understanding: essays on cybernetics and cognition*, New York, Springer, ([1991] 2003).

[30] Von Neumann J. Morgenstern O., "Theory of games and economic behaviour". Princeton, NJ: Princeton University Press (1945).

and act on what others do based on context (rules and norms) for decisions. The circularity then allows to embed recognised emerging norms back into their shaping for socialist and business, naturally synchronizing with non-linear polysensory social and ethical interplays and creating new patterns of social and ethical behaviour.

In cyber-physical times, normative and ethical frameworks have become progressively extensible. Norms are both cause and effect, a source of their own perpetuation and implosion. The systemic approach to emerging ethics as a powerful perspective and purpose generator for collective, decentralized and agile ethics might prove an innovative thinking and acting framework to develop normativity in the digital age by adopting syngnostic norms. They will incentivise the democratic value of integration, progress and participative power of shapable norms, benefiting from collective and decentralized Swarm Ethics, an emerging ethics from people, by people and for people to iron out and reformulate the angularity of normative concepts.