



ENVIRONMENTAL ETHICS AND CIVIL SOCIETY IN THE LEGACY OF SANDRO PIGNATTI

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(RECEIVED 23 FEB 2026; RECEIVED IN REVISED FORM 16 MAR 2026; ACCEPTED 4 APR 2026)

ABSTRACT – The present contribution aims to explore the epistemological and ethical implications of Sandro Pignatti’s scientific legacy, positioning his thought at the intersection of vegetation science, philosophy of nature, and environmental ethics. Sandro developed a unified perspective of nature as an interconnected whole, grounded in interdependence, intrinsic value, and epistemic humility. From an ecological standpoint, the paper analyzes his forward-looking reflections on humus, which he understood not merely as a soil component, but as a dynamic organizing principle connecting biotic and abiotic processes across multiple scales. Methodologically, the document examines his critical reflection on the epistemological limits of classical phytosociology and his innovative proposal of “micro-relevés”. This approach implies a shift from a community-centred to a relation-centred perspective, building knowledge from the bottom up by analysing the direct contacts and statistical recurrence of associations around focal species. Finally, Sandro’s legacy challenges the traditional separation between facts and values, demonstrating that ecological understanding implicitly carries ethical implications and moral responsibility. Highlighting the incompatibility between the logic of continuous economic growth and the finite nature of ecological systems, the author emphasizes the crucial role of civil society: environmental responsibility cannot be delegated solely to institutions, but requires active participation, cultural transformation, and the development of new forms of governance oriented toward long-term sustainability. Ultimately, his vision outlines a transformative ecology where environmental ethics is not an external addition to ecological science, but one of its most profound outcomes.

KEYWORDS: CIVIL SOCIETY; DEEP ECOLOGY; ENVIRONMENTAL ETHICS; EPISTEMOLOGY; HUMUS; MICRO-RELEVÉS; PHYTOSOCIOLOGY; RELATIONAL ONTOLOGY; SANDRO PIGNATTI; VEGETATION SCIENCE.

INTRODUCTION

Sandro Pignatti was not only a distinguished botanist but also a reflective thinker who persistently questioned the foundations of ecological knowledge. His work reveals a constant tension between *vita activa* and *vita contemplativa*: between the necessity of producing scientific knowledge and the deeper, often unresolved, inquiry into its meaning and limits. His lifelong research was driven by the attempt to uncover the patterns of order and repeatability in vegetation, understood as one of the ways in which life organizes itself “at the edge of chaos”. This liminal space between order and disorder became not only an ecological concept but also a

philosophical stance (Guarino, 2025). From the perspective of the philosophy of science, Sandro’s intellectual trajectory can be read as a continuous negotiation with the paradigms of his discipline, *i.e.* Vegetation Science. In a Kuhnian sense, he operated within the phytosociological tradition established by Braun-Blanquet and his followers, contributing significantly to its development. Yet, at the same time, he remained acutely aware of its limitations, particularly regarding the objectivity and reproducibility of vegetation classification. His methodological reflections, ranging from the development of new descriptors (Cristofolini et al., 1970; Pignatti, 1978) to the proposal of alternative sampling strategies (Pignatti, 1994), suggest a latent dissatisfaction with the dominant paradigm and an openness to its transformation.

In this respect, Sandro's approach resonates with Feyerabend's critique of methodological monism. Without ever embracing epistemological anarchism explicitly, he nonetheless advocated for a pluralistic and flexible approach to ecological research, recognizing that complex systems such as vegetation cannot be fully captured by rigid or standardized methods. His later proposals focused on species-specific interactions, including the idea of micro-scale sampling ("micro-relevés", see below), exemplify this openness to methodological innovation. At a deeper level, Sandro's work also challenges the traditional separation between facts and values. In line with Hilary Putnam's critique of this dichotomy (Putnam, 2002), his ecological investigations implicitly integrate descriptive and normative dimensions. The study of vegetation is never merely a neutral observation of patterns; it is also an inquiry into the relationship between humans and the biosphere, and thus carries ethical implications. This becomes particularly evident in his reflections on environmental degradation and the role of civil society, where scientific understanding and moral responsibility converge (Pignatti & Trezza, 2000). The aim of this paper is to reconstruct Sandro's legacy as a coherent, though largely implicit, ecological epistemology: one that connects scientific inquiry, philosophical reflection, and ethical commitment. In doing so, particular attention will be given to the intellectual influences that shaped his vision and to the conceptual bridges he built between ecological science and broader cultural domains.

FOUR VOICES, ONE VISION

A key to understanding the depth and originality of Sandro's thought lies in the constellation of intellectual figures to which he repeatedly returned: Johann Sebastian Bach, Johann Wolfgang von Goethe, Arne Næss, and Albert Schweitzer. At first glance, these figures belong to different times and distinct domains: music, literature, philosophy, and theology. Yet, in Sandro's view, they converge toward a common vision of the relationship between humans and the natural world. This convergence reflects a shared rejection of reductionism and a commitment to understanding nature as an interconnected whole. These four voices articulate a unified perspective grounded in interdependence, intrinsic value, and epistemic *humility*. Bach's music represented, for Sandro, a paradigmatic expression of order and harmony. The contrapuntal structure of his compositions, where multiple independent voices coexist within a coherent whole, becomes a powerful metaphor for ecological systems. Each component retains its autonomy, yet its meaning emerges only through its relationships with others. In this sense, Bach's musical architecture can be read as

an aesthetic anticipation of ecological thinking: a vision of the world in which complexity does not imply chaos, but rather a higher form of order. Goethe, by contrast, provides a model for a different kind of scientific practice. His morphological approach, centred on the concept of metamorphosis, rejects the fragmentation of nature into isolated parts and emphasizes the dynamic unity underlying biological diversity (Goethe, 1798). For Goethe, observation is not a detached act but a participatory process, in which the observer becomes part of the phenomenon under study. This epistemological stance deeply resonates with Sandro's own dissatisfaction with purely analytical approaches and his search for more integrative methods in vegetation science. Arne Næss introduces a more explicitly philosophical dimension through the framework of deep ecology. His concept of the "ecological self" challenges the conventional boundaries between individual organisms and their environment, proposing instead a relational ontology in which all beings are interconnected (Naess, 1990). This perspective aligns closely with Sandro's vision of ecosystems as self-organizing systems and with his broader critique of anthropocentrism. The idea that all living beings possess intrinsic value, independent of their utility for humans, becomes a central ethical principle. Finally, Albert Schweitzer's notion of "reverence for life" provides a moral foundation that complements and reinforces the insights of the other three figures. Schweitzer's ethic is both universal and pragmatic: it acknowledges the inevitability of harm in the course of life, yet insists on the moral obligation to minimize suffering and promote the flourishing of all living beings (Schweitzer, 1923). In Sandro's work, this principle is echoed in his reflections on the relationship between human activity and the degradation of the biosphere, as well as in his call for a more responsible and engaged civil society. Taken together, these four intellectual influences outline a coherent framework that transcends disciplinary boundaries. They point toward an understanding of nature as a web of relationships, endowed with intrinsic value and accessible only through a stance of humility and attentive participation. Sandro Pignatti never formulated this synthesis explicitly, but he embodied it in his scientific practice and in his broader vision of ecology as a discipline that is at once empirical, philosophical, and ethical.

HUMUS AS A PRINCIPLE OF BIOLOGICAL ORDER

Among the many original intuitions that characterize Sandro Pignatti's scientific legacy, his reflections on humus, which he loved to speak about, stand out as particularly forward-looking. Far from being a mere component of soil, humus

emerges in Sandro's view as a key interface within ecosystems: an organizing principle that connects biotic and abiotic processes across multiple scales (Zanella, 2023; 2024). In the "*Humusica*" approach (Zanella et al., 2018), humus is not simply classified according to its morphological or chemical properties, but understood as a dynamic system shaped by the continuous interaction between organic matter, soil organisms, and environmental conditions. These interactions regulate fundamental ecosystem functions, including nutrient cycling, carbon storage, and energy flow (De Nicola et al., 2018). Empirical studies conducted in Mediterranean ecosystems have shown how different humus forms reflect distinct functional equilibria, influencing both vegetation patterns and ecosystem resilience (De Nicola et al., 2014; Cicuzza et al., 2015). What makes this perspective particularly relevant today is its striking convergence with recent developments in microbiome research. Contemporary studies increasingly recognize that all multicellular organisms exist in symbiosis with complex microbial communities, which play a crucial role in maintaining physiological and ecological balance (Ikeda-Ohtsubo et al., 2018; Trivedi et al., 2020). A similar logic applies at the level of ecosystems: soils are not inert substrates, but living systems structured by intricate networks of microorganisms interacting with plant roots, the rhizosphere being one of the most active and complex interfaces (Fierer, 2017; van Rensburg et al., 2024). Sandro's emphasis on humus can thus be reinterpreted as an early anticipation of a broader shift in biological thinking: from an ontology of discrete individuals to an ontology of relational systems. In this view, the fundamental unit of ecological analysis is no longer the isolated organism or even the plant community, but the web of interactions that sustains them. The boundaries between organism and environment become porous, and the distinction between internal and external processes increasingly difficult to maintain: an idea that Sandro himself expressed by questioning the conceptual separation between the inner world of organisms and the external biosphere ("*According to the principle which in Japanese is expressed as 'esho funi' the distinction between the interior of man and the outer world is a conceptual error*" Pignatti, 2013: 93). This relational ontology has important epistemological implications. It challenges reductionist approaches that seek to explain ecological patterns by isolating individual factors, and instead calls for integrative frameworks capable of capturing emergent properties. In this respect, Sandro's thinking aligns with philosophical positions that reject the fact/value dichotomy and emphasize the co-constitution of knowledge and reality. The study of humus is not only a matter of describing soil properties; it is also a way of understanding how life organizes itself through cooperation, transformation, and feedback. At the same time, this perspective carries an implicit ethical dimension. If ecosystems are structured by

networks of interdependence extending down to the microbial level, then the impact of human activities on soils acquires a deeper significance. Soil degradation is not merely a loss of fertility, but a disruption of complex living systems whose functioning underpins the stability of entire ecosystems. In this sense, Sandro's attention to humus becomes a concrete expression of a broader environmental ethic, recognizing the intrinsic value of even the most inconspicuous components of the biosphere. By bringing together soil science, vegetation ecology, and systems thinking, Sandro's reflections on humus contribute to a more comprehensive understanding of ecological organization. They suggest that the search for order in nature cannot be confined to visible patterns alone, but must also engage with the hidden, microscopic processes that sustain them. In doing so, they open a pathway toward a more integrated vegetation ecology; one that bridges scales, disciplines, and ultimately, the divide between scientific knowledge and ethical responsibility.

FROM CLASSICAL PHYTOSOCIOLOGY TO MICRO-RELEVÉS: TOWARD A RELATIONAL METHODOLOGY

One of the most original and, at the same time, least explored aspects of Sandro Pignatti's scientific legacy lies in his critical reflection on the methods of vegetation analysis. While he was deeply rooted in the phytosociological tradition established by Braun-Blanquet, his later reflection reveals a growing awareness of its epistemological limits; particularly concerning the objectivity, reproducibility, and logical consistency of vegetation classification. Classical phytosociology is based on the concept of the *relevé* as a representative sample of a plant community, typically collected within standardized plot sizes and organized into hierarchical syntaxa (associations, alliances, orders, classes). This approach has proven extraordinarily fruitful, providing a common language and a vast body of comparable data (Guarino et al., 2018). However, as Sandro himself noted, it remains strongly conditioned by historical conventions and by implicit assumptions about scale, discreteness, and community structure. A central problem concerns the difficulty of capturing the true patterns of species co-occurrence. Traditional *relevés* record species presence and abundance within a predefined area, but they do not directly measure the spatial relationships among species, nor the frequency with which specific species interact at fine scales. As a result, the assignment of vegetation units often retains a partly subjective component, and the possibility of constructing a fully objective classification remains elusive. In response to these limitations, Sandro proposed a radical rethinking of sampling strategy through the concept of

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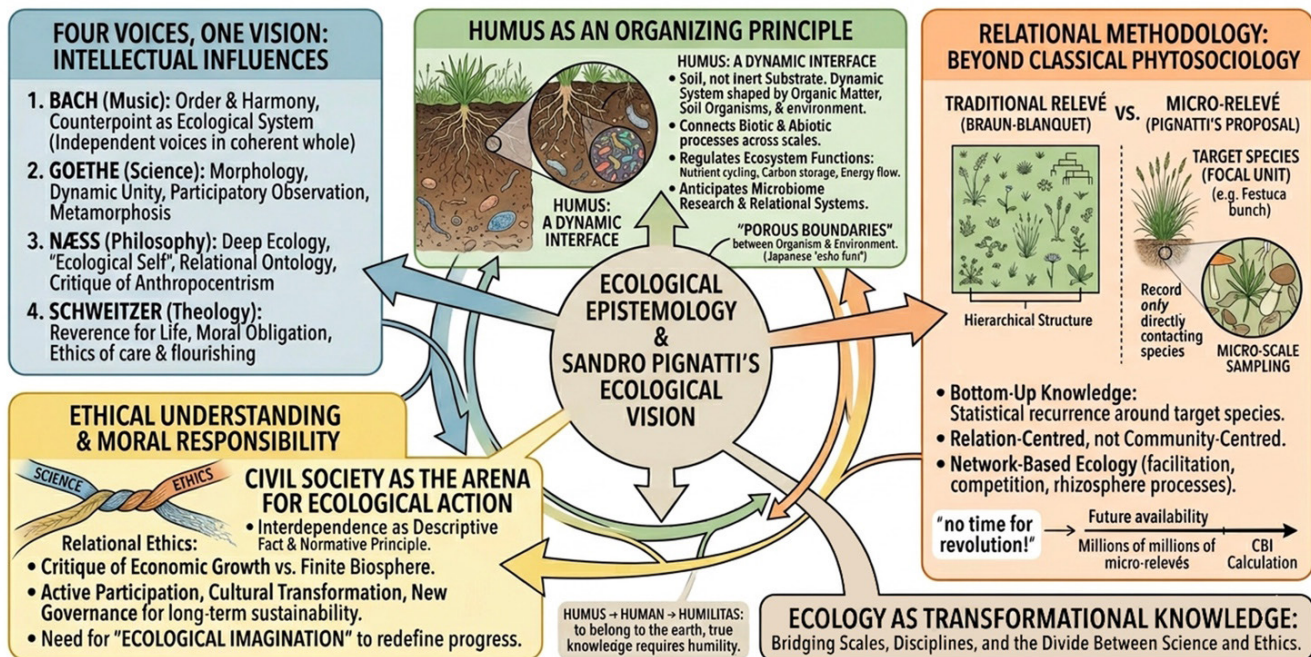


Figure 1. A conceptual synthesis of Sandro Pignatti's legacy, where ecological understanding, methodological innovation, and ethical responsibility converge within a relational view of the biosphere. At the centre lies his ecological epistemology, around which orbit four key themes outlined in the paper. The foundation and culmination of this thought are encapsulated in the shared etymological root of *humus* (earth), *humanus* (human), and *humilis* (humble): an invitation to a transformative ecology that does not separate facts from values, but unites scientific rigor with responsibility toward the biosphere.

"micro-relevés". Instead of defining plots based on arbitrary surface areas, this method focuses on individual species as reference points. A target species is selected, and only those species that are in direct contact with it (or that fall within the vertical projection of its canopy) are recorded. Repeating this procedure across many instances allows for the estimation of species-specific patterns of co-occurrence, which can be quantified through indices such as the Co-occurrence Breadth Index (CBI, see Appendix 1). From a logical standpoint, this approach implies a shift from a community-centred to a relation-centred perspective. Rather than starting from predefined vegetation plots and recording the species into them, the method builds knowledge from the bottom up, by analyzing the statistical recurrence of interactions around focal species. In doing so, it introduces an explicit axiomatic basis: the focal species becomes the reference unit, and the structure of vegetation emerges from the network of its associations. This proposal challenges one of the foundational assumptions of classical phytosociology, namely the scale-dependence of vegetation units (Susmel, 1959; Dengler et al., 2009). As critics have pointed out, vegetation is typically defined at specific spatial scales, and smaller-scale variations are often considered part of the internal structure of communities rather than independent

entities (Palmer & White, 1994). Sandro's counterargument is not to deny scale-dependence, but to complement it with an alternative perspective: just as a human body can be studied both at the level of organs and at the level of cells, vegetation can be analysed both as a large-scale pattern and as a network of fine-scale interactions. In contemporary terms, the micro-relevé approach can be interpreted as a precursor to network-based and interaction-focused ecology. By emphasizing local proximity and direct contact among species, it resonates with current research on plant-plant interactions, facilitation, and competition, as well as with the rapidly expanding field of rhizosphere ecology. The latter, in particular, highlights the importance of belowground processes and microbial communities in shaping plant assemblages, suggesting that the true "contact zone" among species often extends beyond what is visible aboveground (van der Heijden & Schlaeppi 2015; Selosse 2017). From an epistemological perspective, this shift can be seen as moving toward a new observational paradigm. In Kuhnian terms, it does not simply refine existing methods but proposes a different way of defining what counts as relevant data. The focus is no longer on delimiting homogeneous areas, but on tracing relational patterns, acknowledging that different approaches may reveal different aspects of ecological reality.

Ultimately, Sandro's proposal of micro-relevés invites us to reconsider the foundations of vegetation science. It suggests that a more objective and reproducible understanding of plant communities may emerge not from increasing the precision of existing methods, but from rethinking their underlying assumptions. By shifting attention from static units to dynamic relationships, it opens the possibility of integrating classical phytosociology with modern approaches grounded in network theory, spatial ecology, and the study of complex systems.

ECOLOGICAL UNDERSTANDING AND MORAL RESPONSIBILITY

In Sandro Pignatti's work, the transition from ecological understanding to ethical reflection is neither abrupt nor externally imposed. Rather, it emerges as a natural consequence of his relational view of nature. If ecosystems are structured by complex networks of interdependence – extending from vegetation patterns to soil processes and microbial communities – then human actions cannot be considered external to these systems. They become, instead, integral components of the same web, with consequences that reverberate across multiple scales.

This awareness underlies Sandro's engagement with environmental ethics and his reflections on the role of civil society. In collaboration with the economist Bruno Trezza, he addressed the growing tension between the dynamic equilibrium of the biosphere and the expansion of industrial production (Pignatti & Trezza, 2000). Their analysis highlights a fundamental incompatibility between the logic of continuous economic growth and the finite, self-regulating nature of ecological systems. This critique does not merely echo contemporary debates on sustainability; it frames them within a broader theoretical perspective that connects ecological processes with socio-economic structures. At the ethical level, Sandro's position can be understood as a synthesis of the philosophical influences discussed earlier. From Schweitzer, he inherits the principle of "*reverence for life*", which establishes a moral asymmetry between harming and preserving living systems: while harm may sometimes be unavoidable, it always requires justification, whereas the protection and promotion of life constitute an ethical imperative. From Næss, he adopts a relational ontology that dissolves the rigid boundary between humans and nature, thereby extending moral consideration beyond the human sphere. However, Sandro did not fully align with any single ethical doctrine. His perspective avoids both the strict anthropocentrism that reduces nature to a resource and the more radical versions of deep ecology that may overlook the practical constraints of human societies. Instead, he implicitly advocates for a form of relational ethics grounded in ecological

knowledge: an ethics that recognizes interdependence as both a descriptive fact and a normative principle (Pignatti, 2013). This approach has important implications for the concept of civil society. If human well-being is inseparable from ecological integrity, then environmental responsibility cannot be delegated solely to institutions or technical solutions. It requires active participation, cultural transformation, and a redefinition of collective priorities (Guarino et al., 2014b). In this sense, civil society becomes the arena in which ecological awareness is translated into practice, through education, public engagement, and the development of new forms of governance oriented toward long-term sustainability (Guarino et al., 2014a). Sandro's legacy emphasizes the need to move beyond the traditional opposition between development and conservation. Rather than treating these as mutually exclusive goals, a more integrated perspective seeks to redefine development itself in ecological terms, incorporating restoration, resilience, and non-material dimensions of well-being as essential components of progress (Guarino, 2021). This shift requires what might be called an "ecological imagination": the capacity to envision social and economic systems that operate within, rather than against, the limits of the biosphere. From an epistemological standpoint, this integration of science and ethics challenges the conventional separation between objective knowledge and normative judgment. In Sandro's work, ecological understanding does not remain confined to the descriptive domain; it informs and transforms our conception of responsibility. This resonates with philosophical critiques of the fact/value dichotomy, suggesting that the way we describe the world is inseparable from the way we choose to inhabit it. Ultimately, Sandro's reflections on environmental ethics and civil society point toward a form of knowledge that is inherently transformative. To understand ecosystems as networks of interdependence is also to recognize the fragility of those networks and the consequences of disrupting them. In this light, scientific inquiry becomes not only a means of explanation but also a call to action; an invitation to align human practices with the ecological conditions that sustain life. Therefore, Sandro's environmental ethics is not an external addition to ecological science, but one of its most profound outcomes. This notion, far from being merely rhetorical, can be traced back to formative experiences that shaped both Sandro's and my own academic trajectories. We had both studied at two of Pavia's historic colleges: Sandro at the Collegio Ghislieri, whose motto is *Fac bonum* (Do good), and myself at the Almo Collegio Borromeo, whose motto is *Humilitas alta petit* (Humility seeks high things). Both mottos express a conception of knowledge grounded in intellectual rigor and moral awareness. What initially appeared as a light-hearted rivalry between two institutional traditions later revealed itself as a shared cultural foundation, which played a significant role in the development of our scientific collaboration. This attitude

resonates with the broader philosophical framework outlined in the previous sections. Goethe's participatory observation, Næss's relational ontology, and Schweitzer's ethical reverence all presuppose a form of humility toward the living world, an acknowledgment that understanding emerges not from control, but from attentive engagement. Sandro embodied this attitude in his scientific practice. Despite his immense contributions to vegetation science, he consistently avoided presenting himself as a "protagonist," emphasizing instead the collective and cumulative nature of knowledge. As he once remarked, the idea of competition or intellectual confrontation was foreign to his way of thinking (*"I am not, and do not feel like, a protagonist. The idea of competition, of being a leading actor or a fighter, is far from my way of thinking"*). This stance is not merely a matter of personal character; it reflects a deeper conception of science as a shared endeavor, built "brick by brick" through the contributions of many.

In the context of environmental science, this attitude acquires an additional significance. To approach nature with humility is to recognize both its complexity and our dependence on it. It is to accept that our models and classifications are provisional, and that our interventions carry consequences that extend beyond our immediate understanding. In this sense, *humilitas* becomes a necessary condition for developing a form of ecological knowledge that is not only accurate, but also responsible. Our collaboration, which extended over two decades, developed within this framework of mutual respect and shared intellectual values. It found one of its most concrete expressions in the long and demanding process that led to the second edition of *Flora d'Italia* (Pignatti et al. 2017-2019). What began as a semi-ironic challenge, entrusted to me in the spirit of collegial exchange, evolved into a sustained effort of systematization, integration, and reinterpretation of an enormous body of taxonomic and floristic knowledge. The countless hours devoted to organizing heterogeneous materials, revising classifications, and building new digital tools were not only a technical undertaking, but also an opportunity to engage deeply with Sandro's way of thinking.

CONCLUSIONS

The intellectual legacy of Sandro Pignatti invites us to reconsider ecology not merely as a scientific discipline, but as a form of knowledge capable of bridging description, interpretation, and responsibility. Across the different dimensions explored in this paper (philosophical, methodological, and ethical) a common thread emerges: the recognition that life is structured through relationships, and that understanding these relationships entails a transformation of our position within the biosphere. In this

perspective, the concept of *humus* acquires a significance that goes far beyond soil science. Etymologically, the Latin word *humus*, meaning "earth" or "ground", shares its root with *humanus* and *humilis*. This linguistic convergence is not accidental: it reflects an ancient intuition that to be human is, fundamentally, to belong to the earth, and that true knowledge requires a posture of humility. At the same time, this insight carries a profound ethical implication. As Sandro observed, human societies have historically depended on the most fertile humus systems, particularly Mull forms, for agriculture and pastoralism. Yet, the intensification of land use has often led to their degradation, triggering shifts toward less biologically active systems, such as Amphi or Moder humus forms, with consequent losses in soil structure, biodiversity, and carbon storage. This process exemplifies a broader pattern: the erosion of ecological complexity under anthropogenic pressure, and the resulting destabilization of the very systems upon which human life depends. In light of this, the connection between *humus*, *human*, and *humilitas* becomes more than a linguistic curiosity; it emerges as a conceptual framework for rethinking the role of humanity in the biosphere (Fig. 1). To recognize ourselves as "of the earth" is to acknowledge both our dependence on ecological processes and our responsibility toward them. Humility, in this sense, is not a passive attitude, but an active epistemic and ethical stance: it requires us to question the limits of our knowledge, to remain attentive to the complexity of living systems, and to align our actions with their intrinsic dynamics. This perspective resonates with the broader themes of Sandro's work. His reflections on humus anticipate contemporary understandings of ecological interconnectedness; his proposal of microrelevés points toward a relational methodology capable of capturing the fine-scale structure of vegetation; his engagement with environmental ethics highlights the need for a civil society grounded in ecological awareness. Together, these elements outline a vision of ecology as an integrative science that does not separate facts from values, nor knowledge from responsibility. Ultimately, Sandro's legacy suggests that the ecological crisis of our time is not only a matter of environmental degradation, but also a crisis of understanding. Addressing it requires more than new data or improved models; it calls for a transformation in the way we conceive of our relationship with the natural world.

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Appendix 1.

Here is a section from the paper by Guarino et al. (2018) that Sandro held dear, which was removed by the other co-authors even before the manuscript was submitted for review. Javier Loidi's comment was definitive: “no time for revolution!”. Sandro and I took this pre-emptive act of editorial prudence in good spirit, agreeing to postpone the revolution until a sufficiently large set of micro-relevés had been collected. That moment, it must be admitted, still seems somewhat distant; despite the fact that many of those who worked closely with Sandro will recall how insistently, in his later years, he encouraged everyone to collect micro-relevés, often remarking, with disarming simplicity, that “it takes very little time...”

“(…) To be more objective, it would be necessary to measure, for all species, their exact distribution within the vegetation context and assign to them Co-occurrence Breadth Index (CBI). Despite recent efforts to improve the precision of sampling techniques, we will never obtain such data without radically changing the way we conduct phytosociological relevés. The pertinence of assigning an alliance to an order is a matter that must be decided with a clear “Yes” or “No”, but it cannot be reduced to a mere statistical problem. As Einstein said, *Gott würfelt nicht*. ...What to do? In this moment, with the available data, probably nothing. Until now, syntaxonomy remains a very exclusive job, and the efforts made by working groups like the EVS are basically aimed at concluding the ideas deriving from Braun-Blanquet, Pawlowski, Tüxen, Oberdorfer and all the old masters (... “*Prodromus machen!*”). These efforts and the data so far available are completely conditioned by ideas of the past.

One possibility to partially solve these problems, at least for what concerns the phytosociological classification, is to radically change the way of sampling phytosociological data. Data should be collected randomly, and focussed on target species: something like a micro-relevé, where all other

species will be recorded only if they are in direct contact with the target species or if they fall within the vertical projection of the canopy of the target species. From the logical point of view, in this way we would fix an initial axiom and then develop a completely new syntaxonomy, based on the statistical recurrence of species pools around a target species. The CBI will be calculated as the number of co-occurring species divided by the number of micro-relevés in which the focal species occurred. This could integrate the present empirical classification with a more logical one. When millions of micro-relevés will become available, it would be a big advance in knowledge and a radical simplification in data processing. Here comes the possibility to build a new system, projected towards the future. We now have all kinds of facilities and electronic devices to construct a completely new building. A classical phytosociologist would observe that vegetation is a scale-dependent phenomenon. Standard plot sizes have been proposed for different formations (e.g. 100-500 m² for forests, 8-25 m² for grasslands) based on 100 years of experience. Variations at smaller scales cannot be considered in the classification of these community types, because they belong to the internal structure of the community. There is no *Quercus-Fagetum* community on a scale of 1 dm², not even a *Festuco-Brometum* community, only *synusia* (Chytrý & Otýpková, 2003). As a matter of fact, the idea laying behind the micro-relevés is different and, perhaps, complementary to the Braun-Blanquet approach. There's no need to use the same hierarchy and the same criteria which are behind the classical phytosociological classes, including the concept of *synusia*. What you see and analyze with the eyes of a classical phytosociologist is the scale-dependent phenomenon of vegetation. Let's say that it is like observing a human body from a distance. But the same human body can be observed in a different way, focusing on the cells of which it is formed. If you collect enough data on the kind (and position) of cells that are forming the human body and their relationship with the neighbouring cells, at the end you will have many data, among which one combination will more or less coincide with the description of the human body that you had in your mind at the beginning of your data collection. But you'll have much more data on the statistical recurrence of species interactions, which is at the very base of what we call vegetation.”