CONFERENCE PROCEEDINGS

INTERNATIONAL MEETING

RELATIONAL SUSTAINABILITY

18-20 October 2024

Castel Gandolfo (Italia)
Cordoba (Argentina)

INTERNATIONAL MEETING
RELATIONAL SUSTAINABILITY

International Meeting Relational Sustainability
"The contribution of the natural and human sciences to a new synthesis of personal, environmental, social, and economic dimensions"

INTERNATIONAL MEETING
RELATIONAL SUSTAINABILITY

148

International Meeting Relational Sustainability / Centro Universitário São Camilo (Org.). -- São Paulo: Setor de Publicações - Centro Universitário São Camilo, 2024.
69 p.

ISBN 978-85-87121-68-4

1. Sustentabilidade relacional 2. Desenvolvimento sustentável 3. Ecologia integral I. Título

CDD: 581

Cataloging record prepared by Librarian Ana Lucia Pitta
CRB 8/9316

SUMMARY

Agricultural Pesticides and Highly Vulnerable Aquatic Ecosystems: Recognising the Crime of Ecocide to Give Rights to the Voiceless Ocean

Alessandra Guida[1]

[1]Associate Professor at Queen's University Belfast School of Law, Northern Ireland, UK.

E-mail address: a.guida@qub.ac.uk

Abstract

Pesticides adopted in agriculture are irreversibly damaging aquatic ecosystems and creating 'dead zones' within bodies of water where almost nothing can survive. Roughly half the agricultural pesticides escape from fields where they are applied, finding their way into soil, air, water, and rainfall so as to pollute the overall ecosystem. This becomes even more concerning when the threatened aquatic ecosystem is the world's largest coral reef system: The Great Barrier Reef, where marine scientists found excessive levels of several pesticides*. Violations of environmental law obligations or weak enforcement of precautionary measures are more pronounced in the ocean, where zone boundaries are permeable and the high seas are beyond national jurisdictions. Protective criminal law, or ecocide law, complements the development of an ocean rights framework, where the ocean and its ecosystems are considered legal subjects. Just as the fundamental human right to life is safeguarded by criminal laws against murder, rights of nature and ecocide laws are mutually supportive. As such, recognising ecocide internationally would establish a crucial framework to safeguard ocean wildlife and marine ecosystems from severe damage caused by human activities. Against this background, this paper explores whether the crime of ecocide can be applied to the case of pesticides used in agriculture to enhance the sustainable development of the agriculture industry. It also discusses whether its inclusion in the Rome Statute alongside crimes against humanity would support a shift from an anthropocentric to a more ecocentric approach to the environment to promote strategic positive changes.

*Jon Brodiea and Matt Landosb, 'Pesticides in Queensland and Great Barrier Reef waterways - potential impacts on aquatic ecosystems and the failure of national management' (2019) 230(15) Estuarine Coastal and Shelf Science 1.

Animals in the Anthropocene: a problem of crossover of surrounding milieus. Theological projections

Lucio Florio[1], Lorena V. Oviedo[2]

[1]UCA, Decyr.
[2]UCC, Cefyt, Decyr.

E-mail address: lflorio.18@gmail.com

Abstract

The Anthropocene is the last stage of planetary history, characterized by the irruption of human activity on all dimensions of the planet: lithosphere, atmosphere, hydrosphere and biosphere. In particular, the animal world, to which *Homo sapiens* belongs evolutionarily, is directly affected by human presence. An important current of ethology in the last century elaborated the concept of "Umwelt" to designate the perceptual world of each animal organism, distinct in each species. The current phase of the Anthropocene shows an encounter of these animal worlds with the one produced by humans, especially through their artistic, scientific and technical activity. The figurative world produced by the modification of nature by human intervention meets the surrounding worlds of living species. The perceptual worlds of animal species must be inserted into the human world in order to survive and continue to evolve. It is of interest in this paper to present this perceptual clash as one of the crucial aspects of the evolution of the great planetary ecosystem. The subject is important to address theological issues such as theological anthropology, animal theology and eschatology.

Art to be again. Art as a device of consciousness for social transformation (Buenos Aires, Argentina)

Luján Baudino[1]

[1]Lic. En Historia del Arte por la Universidad de Barcelona.

E-mail address: lujanbf@gmail.com

Abstract

Art to be again focuses on the important role that art can have in people's lives in the global civilizational crisis*. We configure an unviable system that dynamizes the earth's ecosystems, it is leading us to self-destruction and nothing seems serious enough to arouse a change in most of us that is commensurate with the circumstances. The way to civilize hegemonic by owning nature as an object of excessive exploitation destroys the planet and distances us from our freedom subsuming into systems of consumption and slavery that condition our experience because they corrupt our nature since We replicate this mode of "Civilize" in our actions. Art to be again raises the human condition as something that is necessary to regain from the awakening of consciousness. The goal of Art to be again is to communicate that art is a great resource in this difficult juncture. It offers an expansive experience that can inspire us to see the world from new and transformative perspectives. Connecting with art promotes creativity as a capacity for human evolution to create new ways of inhabiting the world and offers the possibility of resignifying our existence, more full and connected with life and therefore with the care of our environment.

*Regnasco, Josefina. Crisis de civilización. Radiografía de un modelo inviable, Jorge Baudino Ediciones, Buenos Aires, 2012.

Assessment of plant performance in a biosolar roof systems and its effects on pollinator diversity

Cáceres, N.[1], Robbiati, F.O.[2], Hick, E.C.[1], Suárez, M.[1], Regner, E.[1], Mattof, E.[3], Galetto, L.[2], Imhof, L[1].

[1]Instituto de Investigaciones en Recursos Naturales y Sustentabilidad José Sanchez Labrador S.J. Universidad Católica de Córdoba-CONICET. Av. Armada Argentina 3555. Córdoba Capital, Córdoba, Argentina.

[2]Instituto Multidisciplinario de Biologia Vegetal. Universidad Nacional de Córdoba-CONICET. Av. Vélez Sarsfield 1611, Córdoba Capital, Córdoba, Argentina.

[3]Agencia de Extensión Rural, Instituto Nacional de Tecnología Agropecuaria, Av. Presidente Roca Esq. La Coruña, Córdoba Capital, Córdoba Argentina.

E-mail address: natalia.caceres@ucc.edu.ar

Abstract

Currently, anthropogenic activities are the main causes of biodiversity loss. Pollinators are particularly susceptible to habitat loss and the reduction of available floral resources. Green roofs integrated with solar panels (biosolar roofs) can provide valuable habitats for the conservation of these organisms. Therefore, the main objectives of this study were to evaluate plant performance in terms of survival and flowering potential, quantifying pollinators structure associate to the plant palette trough 10 minutes observations between February and April (2024), and to determine species interactions in a monoculture generalist treatment (*Grindelia cabrerae*) *versus* a biodiverse treatment with 14 plant species (*Glandularia peruviana, G. venturii, G. x hybrida, Phyla nodiflora*; G. cabrerae, *Hysterionica jasionoides, Solidago chilensis; Scoparia montevidensis; Portulaca giliiesi, Justicia squarrosa, Dicliptera squarrosa, Heliotropium amplexicaule; Nierembergia linearifolia; y Menodora integrifolia*). During the period evaluated, all species survived (>75%) and bloomed. In both treatments' pollinators from *Apidae, Halictidae, and Syrphidae* families were found. In the biodiverse treatment, 15 lepidoptera species were found, being Dione vanilla, Ortilia ithra, and *Hylephila phyleus* the most common in *G. x hybrida*, and in *H. amplexicaule*. We recommended designing biosolar roofs with more than one plant species to increase the diversity and frequency of floral visitors. The biosolar roofs drive relational sustainability by creating habitats for biodiversity and generating clean energy, strengthening the connection between people and nature in urban environments.

Beyond sustainability and environmental ethics

Miguel Oliveira Panão[1]

[1]Universidade of Coimbra, Faculty of Sciences and Technology, Coimbra, Portugal.

E-mail address: Miguel.panao@dem.uc.pt

Abstract

This paper challenges the overuse of "sustainability" across diverse contexts, arguing that such ubiquity risks diminishing its core meaning. Sustainability, at its essence, is rooted in physics and refers to the inherent capacity to "exist constantly." By reconceptualizing sustainability as part of a triadic framework, this work introduces two complementary elements: relatability and communicability. Sustainability represents a deterministic agency to maintain and evolve, as explained by Constructal Theory, which identifies the structured patterns of flow and movement in natural systems. Relatability, on the other hand, introduces a non-deterministic agency, where interactions are governed by information, as described by Information Theory. This aspect emphasizes the role of adaptability and relational interdependence within ecosystems and societies. Finally, communicability embodies an ethical agency, grounded in Teilhard de Chardin's Law of Complexity-Consciousness, wherein shared understanding and mutual transformation through communication foster a deeper ethical relationship with the environment. Together, sustainability, relatability, and communicability form a comprehensive ethical framework, expanding the concept of environmental ethics beyond traditional sustainability. This triadic approach proposes a balanced, dynamic relationship with nature, integrating deterministic, relational, and ethical dimensions to redefine our collective responsibility toward environmental stewardship.

Building a Renewable Energy Community in Formia (Lazio, Italy)

Alessio Valente[1], Francesco Contestabile[2], Orlando Giovannone[3]

[1]Dipartimento di Scienze e Tecnologie, Università degli Studi del Sannio, Benevento, Italia.
[2]Direttore Ufficio Pastorale Sociale, Arcidiocesi di Gaeta, Italy.
[3]Ingegnere civile, Formia, Italy.

E-mail address: valente@unisannio.it

Abstract

The importance of dialogue in the realities in which we live is a prerequisite for improving our own well-being and that of the community. These considerations were the starting point at the beginning of 2023 to realise a Renewable Energy Community around a parish in the municipality of Formia, in the south of Lazio (Italy), i.e. an aggregation of several entities to produce, self-consume, sell and share electricity. The idea grew out of the desire to develop renewable and low-polluting forms of energy by incentivising greater energy efficiency, as well as to solve the difficulties of many in paying their bills. The first necessary step was to form a community, involving, in addition to the families of the residents, religious bodies and educational institutions. Experts who were able to highlight the difficulties that would be faced were relied upon to address the technical problems. Several meetings were held with them to understand the motivations, to overcome technical doubts and to share problems. The community thus composed had the courage to respond to a public call issued by the Lazio Region for subsidies to Renewable Energy Communities, being among the recipients of a fund to begin with. This path has become an example for other realities and also an opportunity to be studied within university courses. Finally, for the community members, there seems to have been a start to change their lifestyles and consume less energy in order to be ready when the network between production and consumption units is active.

Climate change and relational sustainability: a shared future?

Stefania Papa[1], Anna de Felice[1], Carolina di Prisco Stella[1], Antonella Fusco[1], Andrea Liberati[1], Tiziano Natale[1]

[1]Dipartimento di Scienze e Tecnologie Ambientali Biologiche e Farmaceutiche, Università della Campania "Luigi Vanvitelli", 81100 Caserta – Italy.

E-mail address: stefania.papa@unicampania.it

Abstract

We are living in a time when climate change is one of the most pressing challenges facing humans and the planet Earth. The response to this crisis must address the root of the problem, the way we live, interact, and relate to the environment, and not be limited to reducing greenhouse gas emissions or developing green technologies. Relational sustainability is a new approach to the problems caused by pollution. It focuses on human-nature and human--human relationships, moving away from environmental sustainability that focuses on 'physical' approaches. This approach brings together many sciences, including ecology, philosophy, and psychology, and thus sees the merging of the ecological and the humanistic approaches. This has enabled sustainability researchers to generate rich insights and significant socio-political work, leading to the development of a new way of thinking about possible solutions to environmental impacts and their consequences. Relational sustainability can be strengthened through collective awareness and action to address environmental challenges. Open communication, social innovation, psychological support, promotion of sustainable lifestyles, inclusion and diversity, and shared responsibility are suggested as possible solutions.

Community: seed of eco-social transformation. Social/environmental experience in Vicente López (Buenos Aires)

Flavia Affanni[1], Juan Pedro Frère Affanni[2]

[1]Dra. en Historia del Arte, Facultad de Filosofía y Letras, Universidad de Buenos Aires, Argentina.
[2]Prof. de Historia, Facultad de Filosofía y Letras, Universidad de Buenos Aires, Argentina.

E-mail address: frereaffanni.juanpedro@gmail.com

Abstract

Social and environmental activism in Vicente López (Buenos Aires, Argentina) confronts urban extractivism expressed in changes in zoning, real estate speculation and insatiable construction – obvious culture of waste– that collapses public services, pollutes, devastates our natural wealth and historical and cultural identity. The local government endorses and facilitates this degradation, impulse by the market, and disregards citizen's quality of life. It also carries out projects that are unnecessary, unconsented and damaging to the environment. In the context of a serious ecological and social crisis caused by a system ruled by the interests of a few and powerful, the collective and territorial experience defending our common home, interacting across class and popular and interdisciplinary academic knowledge, has created a new collective actor. This actor seeks to preserve nature, of which we are part, stopping the social-environmental abuse, denouncing and resisting, but also proposing tools of legal environmental protection (like municipal ordinances), promoting the creation of institutional spaces of dialogue and producing communitarian science in synergy between neighbours, school and university. Even though dialogue with the State is fundamental to push forward public policies, institutional actors are not enough to preserve our commons. Profound, democratic participation can arise alternatives to rethink housing, green spaces, transportation. The experience of communal organization from below in Vicente López aspires to be a seed for radical eco-social transformation.

Contributions to relational sustainability from models of knowledge production and management in researcher promotion and evaluation policies

María Alejandra Herrero[1,2]

[1]Centro Latinoamericano de Aprendizaje y Servicio Solidario (CLAYSS), Argentina.
[2]Escuela para graduados, Facultad de Agronomía, Universidad de Buenos Aires (UBA), Argentina.

E-mail address: aherrero@clayss.org.ar

Abstract

Scientific and technological research should respond through a systematic effort to improve the capacity to address complex problems from a multidimensional, holistic and integral perspective. The aim is to discuss how current models of knowledge production and management in research institutions interfere with participatory approaches that fail to solve complex problems in a sustainable mode. In order to solve 'the problem', it is necessary to move from the traditional, generally fragmented and disciplinary research, which distorts the problem, to transdisciplinary research proposals and participatory action research. These theoretical-methodological approaches can collaboratively create knowledge and develop actions to transform socio-environmental realities, in accordance with the relational sustainability model, achieving long-term changes. Research institutions have the knowledge to work in this perspective, with multiple actors and functions, however, the mechanisms usually used for the promotion, evaluation and management of research activities do not support them. Evaluation tends to be disciplinary, based on 'projects' rather than 'results', according to peer review mechanisms, based on criteria of excellence rather than social relevance, and counting annual publications. There are weaknesses associated with the lack of opportunities for non-disciplinary publications and changes in the institutional structure's articulation, which requires the development of a new 'culture' of assessment, including different actors involved in the problem. In this framework, the responses of science and technology should be based on an experience of searching for knowledge aimed at understanding intrinsically complex objects, within a political and cultural process that prioritizes the sustainability of its responses to the problem.

Contributions to Sustainability from Different Cultural Spaces

Maria Nieves Tapia[1]

[1]CLAYSS, Centro Latinoamericano de Aprendizaje y Servicio Solidario, Argentina.

E-mail address: clayss@fibertel.com.ar

Abstract

Empowering new generations to address the planet's challenges is essential for building sustainable societies based on human relationships. Education plays a fundamental role in this endeavor. UNESCO's call to "learn to learn throughout life" emphasizes the importance of lifelong and non-formal education supported by civil society, media, and networks. However, children and adolescents can go beyond being passive recipients of knowledge to becoming active agents of sustainability when empowered and guided appropriately. Raising awareness through formal events or including environmental topics in curricula is insufficient. While initiatives like "green schools" are beneficial, they do not fully harness the potential of young people. A transformative approach involves service-learning pedagogy, which encourages students to solve real community problems while fostering creativity and responsibility. Examples of this approach are evident across Latin America. In Patagonia, Argentina, students from kindergartens to high schools participate in reforesting the Los Alerces National Park, destroyed by wildfires, by cultivating native species in school greenhouses. Their efforts, supported by National Parks and local organizations, demonstrate active environmental stewardship. In Cangrejillos, a small village in the Puna region, Argentina, children learn to use ancient Inca greenhouse techniques to grow vegetables and strawberries despite harsh conditions. Over 25 years, this initiative has improved local nutrition, diversified incomes, and transformed the area into an oasis through a network of family greenhouses and nurseries. At Javeriana University in Cali, Colombia, service-learning bridges education and sustainability. Agronomy students help coffee cooperatives improve their organic production, while students from Economics and Graphic Design create and promote the "Garittea" brand. Architecture students construct a campus café, facilitating brand exposure, with plans for national expansion. These projects illustrate how engaging young people in real-world challenges fosters sustainable practices. UNESCO now recognizes service-learning as a key strategy for future education. As Pope Francis asserts, "We will not change the world if we do not change education". Empowering younger generations through service-learning achieves both.

Design of a low power vertical axis wind generator (Catholic University of Córdoba - Córdoba - Argentina)

Petrashin Pablo Antonio[1], Castagnola Juan Luis[1], Lancioni Walter José[1]

[1]Facultad de Ingeniería, Universidad Católica de Córdoba.

E-mail address: 8203374@ucc.edu.ar

Abstract

This project describes the development and construction of a prototype of a low-power wind generator, specifically adapted for installation in urban areas such as the City of Córdoba. Unlike traditional horizontal axis generators, this design offers advantages such as; (a) Adaptability to urban environments; Its omnidirectional capacity makes it ideal for areas with high turbulence and constant changes in wind direction, (b) Low cost of operation and maintenance; Its simplified design significantly reduces maintenance costs, (c) High efficiency; Due to the use of asymmetrical wing profiles and an axial flow electrical generator, high efficiency is achieved in the conversion of wind energy into electricity. It is an ideal complement to solar energy: It can operate in conditions of low solar radiation, thus complementing photovoltaic systems. The benefits of development consist of (a) Reduction of dependence on fossil fuels contributing to the generation of clean and renewable energy, (b) Reduction of the carbon footprint helping to mitigate the effects of climate change, (c) Promotion of distributed generation, allowing users to generate their own energy, reducing the load on the electrical grid, (d) Local technological development, promoting research and innovation in the area of renewable energies. The technology developed in the project makes it possible to take advantage of the wind potential of urban areas, contributing to the transition towards a more sustainable and diversified energy system.

Discourses of climate delay and climate obstructionism: the case of oil exploration in Uruguay

Nicolás Dorronsoro[1]

[1]Centro BERIT, Universidad Católica del Uruguay.

E-mail address: nicolas.dorronsoro@ucu.edu.uy

Abstract

Uruguay's priorities in its climate change mitigation strategy are at a crucial moment for the future of this country. In parallel with decades of national mitigation efforts, the public company responsible for the management of fuels and oil, ANCAP, promotes oil exploration in the territorial waters of Uruguay. Although no oil has been found, the recent discovery of large reserves offshore in Namibia has crucially raised the possibility of a find. ANCAP is preparing this scenario by fostering a positive perception of oil exploration and potential extraction in the Uruguayan public opinion. It is argued that the reasoning expressed by ANCAP in Uruguayan media corresponds to different types of climate delay discourse (Lamb *et al*., 2020)* and climate obstructionism. These discourses are identified and the way they contribute to violating Uruguay's commitments as a signatory of the Paris Agreement is problematized.

*Lamb WF *et al*. (2020). Discourses of climate delay. Global Sustainability 3, e17, 1–5. https://doi.org/ 10.1017/ sus.2020.13.

Discovering the Encyclical "Laudato Si" - on care our common home through the conceptual framework of Bernard Lonergan SJ

Augustine Doronila[1]

[1]Honorary Research Fellow. School of Chemistry. University of Melbourne 3010. Victoria, Australia.

E-mail address: adoro@unimelb.edu.au

Abstract

One of the most important philosophers of the 20th century, the Canadian Jesuit theologian Bernard Lonergan developed his cognitive theory where we come to 'knowledge' and 'being' which provided us with valuable insights into understanding reality and how this can provide us with a method to developing thoughts and ways to deal with challenges in this world. Lonergan developed his cognitive theory, called the Generalized Empirical Method (GEM) which brings cohesion to knowledge across disciplines. Lonergan's method offers an approach to the study of theology and the issues and challenges that arise in aspects of theology such as pastoral theology. His method is articulated in eight steps (called "functional specialities") that one can address and apply to a given problem provided me with deeper insights in reading Pope Francis Encyclical Laudato Si and how it proposes a pastoral response not only to Catholics but to all of humanity for the ecological problems besetting our planet in the 21st century. The Encyclical Laudato Si was published in May 2015 and received quite a lot of international media attention. Using Lonergan's functional specialities seem to be a fresh way to bring out new insights from the encyclical. A decade later, we can see the power of the encyclical in providing a pastoral response to the major anguishes that humanity is currently living through.

Energy transition: a challenge in the search for sustainability

Aurora Mariana Garcia de França Souza[1,2] Miguel A. Delgado Rodríguez[2]

[1]Departamento de Engenharia da Fundação Hermínio Ometto/FHO – UNIARARAS. Araras. São Paulo. Brasil.
[2]Universidad Católica Boliviana - Cochabamba - Bolivia.

E-mail address: migueldelgador@yahoo.com

Abstract

Energy, in its various forms, is the driving force that powers the planet and serves as a crucial component of post-industrial society, and consequently, the development of humanity. However, the relentless pursuit of development and economic growth at any cost has led humanity into an unprecedented socio-environmental crisis and an ever-increasing demand for energy to sustain an unsustainable model. The production and use of energy are predominant factors in the emissions of greenhouse gases (GHGs), primarily caused by the continued use of fossil fuels, which remains dominant in some sectors. Concerns about climate change have reinforced initiatives toward an energy transition. To this end, countries are focusing on reducing the share of fossil fuels in their energy matrices, as well as promoting actions to increase energy efficiency and stimulate the use of sources that do not emit GHGs, the so-called "clean energy from renewable sources." However, even renewable sources still cause socio-environmental impacts. Thus, conscious energy consumption and the search for alternative renewable sources remain a global priority in governmental discussions and are connected to Goal 7 of the Sustainable Development Goals, which emphasizes the need to ensure accessible, reliable, and sustainable modern energy for all. It is important to highlight that the forms of energy utilized are political choices made by the state and society, based on the availability of primary energy sources, renewable sources, atmospheric conditions, among other factors. Therefore, a fair and secure energy transition is the responsibility of both governments and every human being inhabiting this planet.

Entropy and Ecology: an application in education based on the thermodynamic imperative by Robert Bruce Lindsay

Vincenzo Cioci[1,2]

[1]Liceo scientifico "F. Sbordone" di Napoli, Italia.
[2]Sezione di Napoli dell'Associazione per l'Insegnamento della Fisica (AIF), Italia.

E-mail address: vincenzocioci1@gmail.com

Abstract

The consequences of the second law of thermodynamics have been widely discussed in the scientific literature, both regarding the maximum efficiency of heat engines but also about the preferential direction of natural phenomena. Perhaps it is not so well known that by this law attempts have also been made to provide a foundation for ethics. In 1959, Robert Bruce Lindsay, concerned about the potential harm of a science devoid of ethical constraints, introduced the thermodynamic imperative in an article published in the American Scientist magazine. In his article, titled "Entropy Consumption and Values in Physical Science", Lindsay argued that humans should strive to increase the degree of order in their environment, opposing the natural tendency of entropy to grow in accordance with the second law of thermodynamics. I have already published an analysis of Lindsay's thought in order to emphasize the relevance of his position*. This approach is particularly interesting because it includes in ethics both the conduct of humans toward their fellow human beings and the ecological behaviour of preservation of nature and sustainable use of natural resources. This paper presents a didactic application, held at Liceo "F. Sbordone", in physics/civic education lessons, which led to the creation of a dice of peace/an earth cube, starting from the thermodynamic imperative.

*Cioci, V. 2011. Termodinamica e Etica secondo Robert Bruce Lindsay. Rendiconti Accademia Nazionale delle Scienze detta dei XL. Memorie di Scienze Fisiche e Naturali, serie V, volume XXXV, part II, tome II, pp. 151–162.

Environmental change strategies according to the Green profiles of Latin American citizens (Córdoba - Argentina)

Enrique Carlos Bianchi[1], Edith Patricia Borboa Álvarez[2], Marco Antonio Ríos Ponce[3]

[1]Unidad Asociada al CONICET - Área Ciencias Sociales y Humanidades. Universidad Católica de Córdoba – Argentina.
[2]Instituto Tecnológico de Sonora, México.
[3]Universidad Tecnológica Indoamérica, Ecuador.

E-mail address: enrique.bianchi@ucc.edu.ar

Abstract

This study focuses on understanding the patterns of green and sustainable consumption among Centennials or Gen Z, who range in age from 16 to 26 from three Spanish-speaking Latin American countries: Argentina (Córdoba), Mexico (Sonora), and Ecuador (Cuenca). The methodology applied is quantitative with a non-probabilistic sampling by gender quota, generated by means of a snowball. The fieldwork was carried out from October 2023 to June 2024 with a sample of 773 cases. Among the main findings, different consumption profiles were identified within this generational group (Zero Green, Conscius Green, Doing Green, and Activist Green), as well as the key variables that influence the adoption of greener practices. The results reveal that factors such as environmental awareness, social influence, and access to sustainable products play a crucial role in the formation of green consumption behaviors. Furthermore, differences and similarities were found between the countries analyzed in terms of predisposition towards sustainable consumption, suggesting the need for market strategies adapted to the cultural and economic particularities of each region. This work contributes to the understanding of the Centennial segment in Latin America, and also highlights the growing importance of developing social marketing strategies according to these profiles, as suggested by the authors Sheth and Frazier (1982) as a change strategy: confrontation, induction, rationalization and reinforcement, which allows applying different approaches to achieve social change: informative-educational, legal, economic, technological (Santesmases Mestre, 2014; Jeff French, 2010) and recently a behavioral approach (Kahneman, 2011; Thaler & Sunstein, 2009).

Environmental restoration and sustainability of natural resources in the sierras de córdoba project. (Universidad Católica de Córdoba - Córdoba - Argentina)

Leticia Pirard Martínez[1], Fernando Pedri[2]

[1]Development Coordination of the Universidad Católica de Córdoba, Argentina.
[2]Professor, Dean (2014-2013) of the Faculty of Agricultural Sciences of the Universidad Católica de Córdoba, Argentina.

E-mail address: leticia.pirard@ucc.edu.ar

Abstract

The project is developed north of the foothills of the Sierras Grandes in the province of Córdoba and 1,200 meters above sea level, in the Cruz del Eje Department; 230 km northwest of the city of Córdoba. Currently, the region presents an increase in the length of the dry winter period and in average temperature, which deepens the risk of fires. This scenario has been hit by intense fires in recent years, which has caused a significant environmental imbalance with degradation of the local flora and fauna, in addition to material and productive losses. This situation deepens the already existing socioeconomic vulnerability of the families living in the region, and make daily life more complex, especially the water supply and food security for families and for the animals they produce. This reality deepens the relevance of the proposed remediation and species restoration work. The general objective of the project is to promote ecological remediation, the conservation and sustainability of native flora, as well as the sustainable management of small agricultural activities together with rural families and local actors.

Experiences with the Laudato Si' Action Platform: A Global Application of Achieving Relational Sustainability Goals for Our Common Home

John A. Mundell[1]

[1]President/CEO, Mundell & Associates, Inc. Global Director, Laudato Si' Action Platform.

E-mail address: jmundell@mundellassociates.com

Abstract

This presentation reflects on the three-year journey of the Laudato Si' Action Platform, a Vatican-facilitated online initiative and community designed to galvanize diverse sectors faith communities, educational institutions, businesses, organizations and local communities toward achieving seven interconnected goals for sustainability rooted in Pope Francis' social and environmental encyclical "Laudato Si". Through collaborative efforts and shared commitments, we have witnessed significant progress in fostering a holistic approach to ecological and social justice, enlisting close to 10,000 organizations worldwide representing more than 125 million people that are touched by the activities being carried out. The platform has facilitated the creation of actionable plans, empowering participants to assess their impact on the environment and communities. Key achievements include the development of grassroots initiatives that prioritize care for our common home, the integration of sustainability into educational curricula and spiritual formation programs, and the promotion of interfaith dialogues that emphasize shared responsibility. By sharing the lessons learned and successful strategies, we aim to inspire continued commitment to relational sustainability, demonstrating that collective action can drive a transformative cultural change. This session will engage participants in discussions about future pathways, encouraging them to reflect on how their own sectors can contribute to a sustainable and equitable future, in alignment with the values of Laudato Si'.

Global Compact on Education and Relational Sustainability

Carina Rossa[1], Maria Affiliazione Cinque[1]

[1]Università Lumsa di Roma.

E-mail address: c.rossa2@lumsa.it

Abstract

We are facing one of the most dramatic periods of humanity, marked by an environmental crisis, which is also social, economic, political and relational. These challenges are widespread and education cannot escape its task. The world is changing and education must change too. Large educational agencies, such as UNESCO, have had to constantly rework their objectives and strategies in response to the "epochal" changes that have occurred in recent years. In this context, one of the strongest messages that UNESCO offers us is precisely that our common humanity needs global solidarity, proposing to develop a new social contract for education. In unison, the voice of Pope Francis rises, proposing the construction of a Global Educational Village that can concretely contribute to including and uplifting the most vulnerable people. This undertaking will not be possible without a tool that involves all the components of society in a common project, a space of cooperation and responsibility capable of initiating and generating new processes and new transformations: the Global Compact on Education. This is an appeal to rebuild, renew and reintegrate the commitment of all, people and institutions, to education. The Pope invites us to create harmony, so the first task is to rebuild the fraternal relational fabric, generating synergies in a climate of communion. The care of the Common Home is part of the central and transversal objectives and themes of this project carried forward by numerous universities, schools and civil society organizations.

Hands that work, motherhood that emerges and childhood present in productive horticultural spaces (Córdoba - Argentina)

Silvia Gertrudis Criado[1], María Gimena Marcattini[1]

[1]Faculty of Agricultural Sciences of the Catholic University of Córdoba.

E-mail address: silvia.criado@ucc.edu.ar

Abstract

In the metropolitan area of the city of Córdoba, Argentina, there are located spaces of horticultural productive. It is usual to see families of Bolivian nationality working the land. Bolivian women, performing their productive and reproductive roles in a simultaneous way, accompanied by their children in field tasks. They have traditional knowledge inherited from their ancestors, which endures and emerges in harmony with the environment. Also in this horticultural territory, is imposed modern agriculture with its technological parcel: improved seeds, phytosanitary products, drip irrigation, etc. Two production logics coexist: traditional and conventional agriculture. This arrises a productive environment, stressed by practices, cultural capital, current regulations and market demands. This research project investigates the relationships established between people and the natural environment; their production, logic and the use of natural resources and goods. We find evidence that there is air pollution, degraded soils and loss of biodiversity; highlighting that there the children who accompany their mothers live, play and circulate. We believe that investigating and advertising emerging environmental problems, linked to pollution and food safety, invites us to question ourselves as a society. Generating dialogues of knowledge in order to build new, safe and healthy surroundings, aimed at guaranteeing environmental sustainability and quality of life for future generations in those lands.

Hydrogen, ammonia and water: an approach to sustainability

Rocchi, Ariel[1]

[1]Universidad Tecnológica Nacional (UTN) Facultad Regional Rafaela, Argentina/Sociedad Argentina de Hidrógeno.

E-mail address: arielrocchi@hotmail.com.ar

Abstract

This presentation analyzes the potential of hydrogen, ammonia and water in the energy, transportation and industrial sectors, using a SWOT (Strengths, Weaknesses, Opportunities and Threats) approach. Hydrogen stands out as a clean energy source with applications in heavy vehicles and industrial processes, as well as in steel production. Opportunities include the development of green hydrogen technologies and the expansion of the necessary infrastructure. However, it faces challenges related to infrastructure costs and risks in its storage and transportation. Ammonia is widely used in the production of fertilizers and chemicals, as well as in refrigeration systems. Its strengths include its capacity as a hydrogen carrier, while its weaknesses are related to its intensive production and toxicity. Opportunities lie in more efficient and less polluting processes, while threats include stricter environmental regulations. Water is essential for numerous industrial processes, agriculture and power generation. Opportunities for innovation include treatment and recycling technologies, although it faces challenges related to scarcity and pollution. Threats stem from climate change and more stringent environmental regulations. The presentation explores the intersection between industrial sustainability and the principles of "Roof, Land and Labor" applied in industrial districts, clusters, poles, parks and areas in Argentina, in order to increase efficiency and foster sustainability.

Importance of estimating the Carbon Footprint of the Catholic University of Córdoba as a tool towards good environmental practices

Soledad Perfumo[1], Lelia Imhof[2]

[1]Universidad Católica de Córdoba, Vicerrectora de Innovación y Desarrollo.
[2]IRNASUS (Universidad Católica de Córdoba-CONICET).

E-mail address: lelia.imhof@ucc.edu.ar

Abstract

The carbon footprint identifies the amount of greenhouse gases released into the atmosphere as a result of the deve-lopment of any activity, it allows to identify the sources of emissions and establish reduction and compensation me-asures. The Catholic University of Córdoba, in its Institutional Development Plan 2021-2026, defines in its vision to be a leading university in good environmental practices; that is, to seek to respond to socio-environmental problems, by promoting a culture of sustainability and care for the Common House. In this sense and with 2022 as the base year, it was observed that the UCC has produced 3072.13 tn CO_{2eq}, where 2074.03 tn CO_{2eq} were emitted at the Campus headquarters; 362.55 tn CO_{2eq} at the Centro headquarters and 635.05 tn CO_{2eq} in Medicine. The most important sources were the movement of third-party vehicles to the campuses (teaching staff, non-teaching staff and students, 44.4%) and the consumption of electric energy (35.04%). The remaining sources impact, in decreasing order, waste (5.32%), the use of own vehicles (4.05%), gas consumption (3.48%), refrigerant gas leaks from air conditioning equipment, and then the others. As a source of removal, the tree vegetation on campus sequesters 218.86 tn CO_{2eq} annually. De-fining the university's environmental policy on which the emission reduction strategies will be based, as well as all those that lead to better environmental practices, will be fundamental pillars of the next institutional approaches.

Incorporation of subjects related to sustainability and environmental care in engineering careers

Castagnola Juan Luis[1], Uema Ariel Shigeru[1]

[1]Facultad de Ingeniería, Universidad Católica de Córdoba – Argentina.

E-mail address: juancastagnola@ucc.edu.ar

Abstract

This paper presents a chronological overview of the initiatives undertaken by the UCC Faculty of Engineering to foster teaching, learning, and research centered on environmental sustainability, clean energy, and equitable access to energy. Since 2015, the Faculty has undergone a significant educational transformation, equipping graduates to tackle pressing environmental challenges. The curriculum has enriched with a wide range of courses, diplomas, and research projects focused on sustainability, starting in 2016. In 2019, the successful implementation of extracurricular courses led to the launch of the Renewable Energy and Energy Efficiency Technician program. Several of these courses have integrated into undergraduate engineering programs as electives. Over the years, numerous final-year theses and research projects have completed, often in collaboration with industry partners or with government funding. In 2024, the Faculty reaffirmed its commitment to sustainability by revising all engineering curricula. The introduction of new courses and specialized tracks in renewable energy and energy efficiency ensures that our graduates are well prepared to contribute to a more sustainable future.

Integral Ecology and Its Relational Power

Pauilna Nuñez[1]

[1]Universidad Francisco de Vitoria (Madrid, Spain).

E-mail address: paulina.nunez@ufv.es

Abstract

This paper reflects on the relationship between integral ecology and contemporary individualism, presenting the university as an ideal space for forming community networks. It aims to enhance the dialogical reach of integral ecology in the holistic education of university students. Integral ecology recognizes the central value of the human being within the ensemble of all beings. Pope Francis posits a link between individualism and the climate crisis, a consequence of instrumental reason, which contrasts with the expanded reason proposed by Pope Benedict XVI. Integral ecology highlights that everything is interconnected. Fabrice Hadjadj*, in his book "What is Nature?", opens an interesting line on interdependence as an expression of true autonomy, while certain educational practices promote an individualism focused on self-protection, hindering the preparation to deal with diverse opinions. Integral ecology offers a balanced approach that enables young people to face challenges and develop resilience. Currently, valuing the common good in a fragmented and individualistic reality is a challenge. The ethical question safeguards integral ecology from ideological manipulations, proposing a "situated anthropocentrism" and fostering interdisciplinary dialogue. The modern university has the mission to confront hyper-specialization and fragmented thinking, reflections of individualism. Integral ecology, as a powerful image revisited by Francis, addresses both internal and external deserts, promoting ecological conversion.

*Hadjadj, F. (2023). What is Nature? (M. Martín, Trans.). Madrid: Rialp.

Internal Company Relationships: influence on Sustainability Practices and Company Outcomes (Grottaferrata - Roma, Italy)

João Francisco do A. Giovani[1], Luca Fiorani[2], Willian Calvo-Quiròs[3]

[1]Instituto Universitario Sophia, Firenze region, Italy.
[2]Instituto Universitario Sophia, Firenze region, Italy.
[3]Michigan University, USA.

E-mail address: joaofranciscogiovani@gmail.com

Abstract

From 1990s on an intense transformation in organizations could be observed, specifically with the "ISO's" event, process optimization, human resource programs and others. That transformation has brought about a qualitative change in the treatment of issues such as quality, the environment, safety at work and many other organizational aspects. Words like efficiency, effectiveness, optimization, cost reduction, environmental protection and social responsibility have become part of everyday business life, which has led to the development of hundreds of management tools, including Lean Manufacturing, Six Sigma and many others. The mentioned events that followed, brought the corporate world closer to concepts of environmental protection and sensitivity to social issues, while maintaining economic profitability. Today, billions of dollars are being invested by companies to implement ESG platforms (environmental, social and governance) in various companies in different countries. This article, through the analysis of an empirical experiment in a company, aims to contribute to the current debate on sustainability and the influence of internal interpersonal relationships on a company's overall results. In this road Benedetto Gui1 stands out, who is one of the most active economists in studying the relational good. His thesis is that relational goods are "interpersonal relationships that have a value in which to invest" (Gui 1996). For him they are "interpersonal relationships of quality" (Gui, 2003).

*GUI, Benedetto - On "Relational Goods". Strategic Implications of Investi ment in Relationships, in "International Journal of Social Economics", XXIII, 10-11, pp. 260-78, 1996.
Id. "Economics and Social Interaction: Accounting for Interpersonal Relations", 2003.

Lands, seas, crops, cultures: biogrammatic protection of the Mediterranean through relational sustainability actions

Thalassia Giaccone[1,2], Lisa Ayala[3], Silvia Fioravanti[4], Irene Fiore[5], Marisa Gigliotti[6], Antonio Riontino[7]
Evelina Rizzo[8], Gladys Spiliopoulos[9], Daniela Villani[10*]

[1]Anton Dohrn Zoological Station, Integrative Marine Ecology Department (EMI), Sicily Marine Centre, Messina, Italy.
[2]National Biodiversity Future Center, Palermo, Italy.
[3]Economy for Environment and Sustainability, Como, Italy.
[4]Social Cooperative "Pane e Rose", Prato, Italy.
[5]Architect, freelancer, Foggia, Italy.
[6]Architect, freelancer, Soverato (Catanzaro), Italy.
[7]University of Bari, Biosciences, Biotechnology and Environment Department, Bari, Italy.
[8]Public Administration, Catanzaro, Italy.
[9]Economy for Environment and Sustainability, Taranto, Italy.
[10]Institute of Management, School of Advanced Studies Sant'Anna, Pisa, Italy.
*National Biodiversity Future Center, Padova, Italy.

E-mail address: thalassia.giaccone@gmail.com

Abstract

The objective of this work is the realisation of a Mediterranean integral ecology project, based on a 'biocultural' land management model, in which the care and custody of the Mediterranean area is combined with the enhancement of the relations between the native populations and the environment, through a new paradigm that makes 'biogrammatics' the common language, its own 'Mediterranean Ecological Koine' (K.E.M.). Lands, seas, cultures are the identity elements on which the project rests and from which we want to start to realise experimental hubs: these are pilot projects of economic, environmental, socio-cultural, architectural and historical regeneration through the involvement of a network of Mediterranean women's monasteries. Indeed, the Mediterranean can represent a frontier of peace in which the diversity of bio-languages, bio-literacies and bio-registers plays a key role in the realisation of a new paradigm of relational sustainability between native populations and the Mediterranean Sea itself.

Multiscalar discourse analysis on the meanings of sustainability

María Paula Ávila Castro[1], Erik Saccucci[2]

[1]Professor and Researcher, Catholic University of Córdoba, Argentina – Unit associated with CONICET, IDEJUS Scholarship holder (UNC-CONICET) and. Member of the El Llano en Llamas research team.

[2]Professor and Researcher, Catholic University of Córdoba, Argentina – Unit associated with CONICET. Member of the El Llano en Llamas research team.

E-mail address: erika_sac34@hotmail.com

Abstract

Since the 1970s, various criticisms of development models based on extractive and predatory practices of nature have emerged, leading to the concept of sustainability. This perspective has been, and continues to be, strongly promoted by international organizations such as the ONU, the Millennium Ecosystem Assessment, and foundations like the Ellen MacArthur, which advocate for its incorporation into public policies at all levels. However, there is great diversity in the meanings attributed to this concept and the practices related to nature that it implies. In this paper, we propose to analyze the discourse surrounding the meanings of sustainability, focusing on two emerging environmental protection strategies: circular economy and ecosystem services, and examine them on various levels: international, national, and local. Our hypothesis is that these discourses highlight a tension between two perspectives: one that is mostly economical, expressing a neoliberal rationality* that subordinates the environmental dimension to the economic one, and another that is articulated from a holistic, relational and ecological perspective. Our document corpus will include official documents from the Ellen MacArthur Foundation since 2021, reports from the Millennium Ecosystem Assessment in 2003, the design of two national policies on circular economy from 2021, the 2017 National Action Plan for Forests and Climate Change, and technical reports from local actors on land-use planning for native forests in Córdoba between 2016 and 2017.

*Foucault, M. (2007). Nacimiento de la biopolítica: curso en el Collége de France (1978-1979). Buenos Aires: Fondo de Cultura Económica.

Our Connection with Nature: Elements for a New Synthesis from a Dialogue between Science and the Thought of Chiara Lubich

Gabriel Antonio Ferrero[1,2]

[1]Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata, La Plata, Argentina.
[2]Instituto de Astrofísica de La Plata, Universidad Nacional de La Plata – CONICET, La Plata, Argentina.

E-mail address: gferrero@fcaglp.unlp.edu.ar

Abstract

The current ecological and social crisis requires a profound modification of our approach to nature. For this change to be effective and lasting, it needs to be grounded in a renewed conception of nature itself and our connection to it. Science has provided a representation of natural phenomena suitable for technological development, but it requires a broader connection with wisdom-based visions of nature to support human activity that is sensitive and attentive to the care of the cosmos. In this conference, we present some elements that may contribute to this new synthesis. We propose a wisdom-based analysis of certain characteristics of natural phenomena highlighted by science. These are characteristics that emerge as particularly significant when viewed through the lens of the relationship between humanity and nature as glimpsed in the experience and thought of Chiara Lubich. In particular, we focus on the categories of relationality, unity, dynamism, purpose, and nothingness.

Preliminary Environmental Management Plan for the "El Algarrobal" urban wetland (Villa María - Córdoba, Argentina)

Gabriela Cejas[1,2], Ariel Uema[1,2], Paola Ruiz[1,2], Constancia Pirard[1,2]

[1]Catholic University of Córdoba, Engineering Faculty, Córdoba, Argentina.
[2]National University of Córdoba, Faculty of Exact Physical and Natural Sciences, Córdoba, Argentina.

E-mail address: 1717874@ucc.edu.ar

Abstract

The deficit of water resources by use and inadequate management constitutes one of the greatest limiting factors for sustainable development worldwide. The Sustainable Development Goals and the quality of ecosystems, relict of native forest in this case, depend directly on adequate handling and management of the natural resources that are at risk (Pérez, 2004)*. An environmental inventory and monitoring of the "El Algarrobal" urban wetland (2019-2023) was carried out with students of the Civil Engineering Degree as an Environmental education tool on the ecological importance of urban wetlands. The university community approached the native forest to carry out environmental characterizations following the principles that what is not known is not valued. This work allowed the preparation of a document, the preliminary Environmental Management Plan (PMAP) of "El Algarrobal". At the same time, it was established that certain areas of the relict forest are constantly affected by the generation of open-air micro-garbage dumps, and then several episodes of fires have been triggered, apparently by the burning of the waste.Therefore, the native forest is unprotected and, if the pertinent measures for its protection are not implemented, through the creation of an Urban Reserve, it is in danger, since the possibilities of extinction increase. For this reason, the PMAP of "El Algarrobal" is mainly a population awareness document.

*Pérez, Á. A., & Le Blas, F. N. (2004). Guidelines for the application of the ecosystem approach to the comprehensive management of water resources. United Nations Environment Program, Regional Office for Latin America and the Caribbean, Environmental Training Network.

Quantification of the energy potential of biogas from a sewage treatment plant: a contribution to the sustainability of our common home

Eduardo Ribeiro[1], Aurora Mariana Garcia de Franca Souza[2]

[1]Chemical Engineer graduated from Fundação Hermínio Ometto/FHO – UNIARARAS. Araras. São Paulo. Brasil.
[2]Professor at the Department of Engineering at Fundação Hermínio Ometto/FHO – UNIARARAS. Araras. São Paulo. Brasil.

E-mail address: eduardoribeiro99@hotmail.com

Abstract

The growing concern with environmental issues and the search for sustainable energy solutions have driven the interest in using biogas as a renewable source for electricity generation. It is also important to note that biogas is primarily composed of methane and carbon dioxide, which are greenhouse gases (GHG). This study aimed to theoretically quantify biogas production as a byproduct of wastewater treatment, as well as to provide an initial estimate of the economic feasibility of using it to generate energy for consumption at the Sewage Treatment Plant (STP) that produced it. Through the application of mathematical equations, a monthly biogas production of 30,457.29 m^3 was estimated, of which 70% is methane, totaling 21,320.10 m^3. From this volume, the electricity generation was calculated to be 2,139.10 kW/month, representing 0.29% of the SWTP's energy consumption. The initial economic feasibility estimate revealed a monthly saving of R$1,612.88, resulting from the reduction of electricity consumption supplied by the utility company. Based on this data, the return on investment required for the project's implementation was estimated to be in three years. Therefore, it is concluded that using biogas as an energy source in STPs represents a promising alternative, as it serves as a means of mitigating GHG emissions and presents favorable economic feasibility for the enterprise. Thus, the studied proposal opens possibilities for more in-depth research and contributes to a relational sustainability that harmonizes society's needs with environmental preservation.

Relational Anthropological Framework for Dialogue Between Christian Thought and UN Documents

María Zitto Soria[1], Alberto López Rosado[1]

[1]Universidad Francisco de Vitoria.

E-mail address: maria.zitto@ufv.es

Abstract

This article examines the convergences and divergences in the relational anthropological vision present in UN documents, particularly the 1972 Stockholm Conference (CE72), and the Social Doctrine of the Church (DSI), as represented by the encyclical Laudato Si'. It highlights the need to find common ground that fosters fruitful dialogue between diverse ideological and spiritual positions to address the global environmental crisis. The analysis focuses on the relational dimension of the human being, leaving aspects related to transcendence and the relationship with creation for future studies. Both CE72 and DSI emphasize key values such as justice, equality, solidarity, and collective responsibility, essential for addressing environmental challenges. CE72 focuses on international cooperation and equity between developed and developing countries, stressing the protection of natural resources for future generations. Meanwhile, Laudato Si' brings an ethical and spiritual dimension, emphasizing human dignity and interconnectedness, recognizing Earth as a "common home" that must be cared for. Despite ideological differences, the article shows that both approaches provide a solid foundation for dialogue and joint action. The comparison between CE72 and DSI illustrates that through an ethic of responsibility and mutual care, collective action can mitigate the environmental crisis. This study of the relational anthropological framework suggests respecting differences due to the context and nature of each document, proposing first to identify shared principles, like environmental protection and future generations' well-being, to foster collaboration between perspectives.

Relational levels around the urban water cycle

Mario Alejandro Nudelman[1]

[1]Director del Centro para la gestión sostenible del agua y el hábitat humano (CEGELAH) de la Facultad de Ciencia y Tecnología de la Universidad Autónoma de Entre Ríos.

E-mail address: nudelman.mario@uader.edu.ar

Abstract

This work is descriptive, based on the observations made at CEGELAH for 16 years, promoting research, innovation and technology transfer aimed at strengthening the planning capacities of small and medium-scale drinking water services in the province of Entre Ríos. Four levels of interrelations between internal and external aspects of water supply systems are described. The objective is to identify areas of intervention in terms of innovations that allow counteracting the main vulnerabilities detected in the aforementioned scale of services within a context of climate change. A first level is to understand the urban/rural water cycle as complexity, highlighting the scientific approach provided by the General Systems Theory as an interdisciplinary language that allows its parts to be addressed not in isolation but interrelated. A second relational level is to expand the knowledge base through the participation, not only of specialists, but also of the main social actors in the formulation of this systemic understanding of the problems and basing the design of action strategies by consensus. A third level is given in the inclusive possibilities of rural sectors as beneficiaries with equal rights as urban users of water supplies. And, finally, a fourth relational level, that of forming public-private partnerships that progressively shape the water value chain, promoting synergies between public water service, local governments, the scientific-technological system, suppliers of materials, equipment and services, professionals in the sector, laboratories, among others.

Relational Sustainability and the Design of Technological Solutions: The Agrovoltaic Experimental Park Project (Córdoba, Argentina)

Soledad Perfumo[1], Leonela Ferraresi[2], Lelia Imhof[3]

[1]Vicerrectorado de Innovación y Desarrollo de la Universidad Católica de Córdoba, Argentina.
[2]Instituto de Investigaciones en Recursos Naturales y Sustentabilidad José Sánchez Labrador SJ, unidad de doble dependencia Universidad Católica de Córdoba y CONICET, Argentina.
[3]Gerencia de Vinculación Tecnológica de la Universidad Católica de Córdoba, Argentina.

E-mail address: leonela.ferraresi@ucc.edu.ar

Abstract

The university serves as a high-level training center for both production and life. Research and development (R&D+i), teaching, and university extension should be framed within the pursuit of making a significant contribution to sustainable social development. In this context, UCC integrates strategies to promote technological solutions and knowledge transfer aligned with the "Care for Our Common Home", the 2030 Agenda, Carbon Footprint calculation, and the UI GreenMetric evaluation framework. This approach leads UCC towards the construction of its own triple impact sustainability model, permeating all its core functions: teaching, research, extension, and knowledge transfer. This holistic approach, termed "relational sustainability", aims to create a culture based on technological linkage, enabling interventions with an impact on: 1) The environment, aligning practices with a vision of respect and responsibility towards both the present and future surroundings. 2) Academia, fostering the creation of a local knowledge ecosystem open to environmental education, research, and innovation. 3) The community, generating shared-value projects and activities aimed at transforming the development matrix into a sustainable one. This approach will be presented through the "Agrovoltaic Experimental Park" project, whose purpose combines the development of innovative solutions, the generation of clean energy, the transformation of the energy matrix, environmental education, and the creation of community extension projects.

Relational sustainability: aspects from economics and ethics

Alejandra Marinovic[1]

[1]Instituto de Éticas Aplicadas/Pontificia Universidad Católica de Chile.

E-mail address: alejandra.marinovic@gmail.com

Abstract

One of the fundamental causes of the current climate crisis is the existing relationship between humans and technology. It is necessary to address the role of the technocratic paradigm in society, and for this the framework of integral ecology is useful. By technocratic paradigm, we understand an extended way of understanding the world such that human beings see technology as the solution to all their problems. It has three components: technology, the suffix cracia (from Krátos, government), and its domination over other ways of seeing the relationship between human beings and the cosmos. This paradigm raises the idea of infinite economic growth. Furthermore, possessing technology generates power, and said power is accumulated in a few hands. Indeed, the institutions that derive from the technocratic paradigm are politically exclusive by nature and undermine democracy. In this paradigm, technology is a way of apprehending things: if nature is a resource, knowledge essentially becomes engineering, and the truth of said knowledge is technical feasibility. Along with this, if we can extend the limits of nature thus conceived through technology, we enter the perpetual desire for more, because it is possible and, if possible, it is good: a technological imperative. Faced with this, ethical reflection becomes essential. Fraternity as a relational proposal takes on special relevance and entails not only interpersonal but also social and political dimensions. Fraternal people are not enough if the institutions that bring them together in nations do not value fraternity.

Relational sustainability, participatory research and service-learning, approached from integral ecology to address complex problems

M.Alejandra Herrero[1,2], Alejandra Batista[3]

[1]Centro Latinoamericano de Aprendizaje y Servicio Solidario (CLAYSS), Argentina.
[2]Escuela para graduados, Facultad de Agronomía, Universidad de Buenos Aires (UBA), Argentina.
[3]Centro de Tecnologías Educativas, Facultad de Ingeniería, Universidad de Buenos Aires (UBA), Argentina.

E-mail address: aherrero@clayss.org.ar

Abstract

Environmental problems have an unequal impact on the different social groups. Their educational and participatory approach, based on integral ecology and relational sustainability, requires epistemological and curricular changes as well as changes in educational proposals. The aim of this paper is to propose a framework of combined pedagogical strategies to address, from the educational point of view, the paradigmatic changes associated with integral ecology and relational sustainability. We worked on an analysis, according to a rubric developed for this purpose, considering educational experiences developed in Latin America, aimed at tackling environmental problems through Participatory Research (PR) and Service Learning (SL). Three characteristics emerge from the analysis of the educational experiences that combine these methodologies: the involvement of a variety of actors in the identification and construction of the problems solution (PR focused on the complexity of each problem), the recognition of justice of socio-environmental rights and a particular interest in social and environmental sustainability of the proposed solutions. The SL together with the PR approached from the new vision of ecology as integral ecology, emphasized in the encyclical Laudato Si, rethinks the science-society relationship as a cultural renewal that aims at relational sustainability. In this renewal, the response to the problems of today's world is created from new approaches, knowledge and ways of developing solutions, in which educational institutions can be agents of change, promoting youth protagonism and educational quality, to build social and environmental justice.

Relational sustainability: the contribution of nutrition for happiness

Ana Helena Pinto[1]

[1]Nutrition for Happiness, Unipessoal Lda, Arouca, Portugal.

E-mail address: anahelenapinto@nutritionforhappiness.com

Abstract

Nutrition for Happiness was founded by nutritionist Ana Helena Pinto in 2020, marking the culmination of four years of dedication and professional growth. The company is centered on providing innovative, forward-thinking nutrition services, with a broad and integrative view of the vital role food and nutrition play in our lives. Since its inception, Nutrition for Happiness has flourished thanks to a passionate team driven by a commitment to learning, evolving, and sharing their diverse expertise across various fields of nutrition. Although headquartered in Arouca, the company's impact extends far beyond, fostering partnerships with local, regional, national, and international entities, entrepreneurs, communities, and individuals. Nutrition for Happiness is expert in assessing and diagnosing nutritional needs, and to develop comprehensive strategies that contribute not only to the nutrition of individuals but also to the well-being of the environment they live in. This commitment means continually innovating and improving everything to do—from nutrition and meal planning to fostering positive human relationships, encouraging creativity, promoting health, and ensuring sustainability and responsibility. These values are what drive Nutrition for Happiness, inspire, and keep striving toward the vision of a healthier, more sustainable world. The nutrition's approach with a holistic perspective, recognizing the interconnectedness between food, the people it nourishes, and the environment it comes from. Nutrition for Happiness's work not only focuses on individuals but also extends to improving the health and well-being of communities. By addressing all dimensions of nutrition, to aim to make a lasting impact wherever the services are needed.

Relational sustainability: the example of kelp forests of *Laminaria ochroleuca* in the Strait of Messina (Italy)

Thalassia Giaccone[1,2]

[1]Anton Dohrn Zoological Station, Integrative Marine Ecology Department (EMI), Sicily Marine Centre, Messina, Italy.
[2]National Biodiversity Future Center, Palermo, Italy.

E-mail address: thalassia.giaccone@gmail.com

Abstract

The *Laminaria ochroleuca* forests of the Strait of Messina are true Atlantic relict and resilience species*, probably Pliocene or older, that have remained isolated in this area of the Mediterranean Sea due to the presence of chemical and physical conditions similar to the temperate Atlantic from which they originate, after the closure of the North and South Rifano Straits that at the time instead made Atlantic - Mediterranean exchanges wider. They represent a priority habitat-that is, a natural habitat for which the European community has given conservation priority. These giant kelp forests are both resilient and strongly relational species, as they establish with the biotic, abiotic environment and with the native Mediterranean coastal populations numerous sustainable reciprocal relationships along with various ecosystem services. It is intended here to propose the relational sustainability paradigm, already initiated by *L. ochroleuca*, as a new proposed relational model for native Mediterranean coastal populations in order to improve integral human-sea well-being and mitigate ongoing anthropogenic impacts at the local and Mediterranean levels.

*Giaccone, T., Ragazzola, F., Barone, P., Condemi, C. & Mannino, A.M. 2024. The flourishing of Laminaria ochroleuca in the strait of Messina (Sicily, Italy): resilience population between "Scylla and Charybdis". Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology, DOI: 10.1080/11263504.2024.2326826.

Relational Sustainability: the foundation of an educational offering

Marisa Macor[1]

[1]Instituto Universitario Sophia ALC.

E-mail address: marisa.macor@sophiauniversity.education

Abstract

Since 2021, the Continuing Education offer of the Sophia ALC University Institute has adopted relationality as a principle of sustainability. Here we outline how this academic proposal can contribute to the concept and realization of relational sustainability in terms of method, content, and relational experience. Whether the courses (10 courses, 700 students, and 300 projects) address topics such as: Integral Ecology, Fair Access to Land, Community Leadership, Interculturality, Peacebuilding and Generative Communication, Business Transformation and Entrepreneurship from Communion, Psychological, Spiritual, or Professional Support, three are the elements of their strong relational focus: 1) the framework of inter and transdisciplinary content; 2) its pedagogical proposal, for which human relationships are the central axis of community learning and a collective construction of knowledge that integrates life, study, and research; 3) the application of relational sustainability in projects of contextualized social and environmental impact. Ontological foundation is the sapiential vision of love, a unifying and distinguishing principle of a relational worldview and anthropology. This principle supports the three mentioned elements because 1) it permeates and illuminates knowledge and disciplines transdisciplinarily, expressing itself with its own languages and methods, but not in a fragmented way, rather 2) in the communion of the people who cultivate them, and 3) motivating the transformation of reality. In this way, Sophia ALC's academic-pedagogical proposal contributes to the concept and practice of comprehensive relational sustainability, an experience that promises future developments.

Relationship-based health management: a new paradigm to integrate sustainability, social equity and patient centered care?

Maria Grazia Arneodo[1]

[1]"Opera Don Guanella", Italia.

E-mail address: mgarneodo@gmail.com

Abstract

Huge developments in biosciences have resulted in unheralded progress in diagnostics and therapeutics, with the use of more complex and costly technologies. At the same time, many people still die of foreseeable, preventable causes, such as insufficient access to clean water, poor sanitation, and unhealthy lifestyle. Even in richer countries, shrinking public resources lead to health systems reviewing funding allocation. As a consequence, citizens have often to face an increased health expense, reduced services, greater bureaucracy and a less person-centered approach. The resilience of health systems is put to the test by demographic changes and extraordinary events that are now frequent, such as environmental emergencies, pandemics and wars. Perhaps the most urgent challenge for medicine today in every sense is to integrate sustainability and social equity within an ethical context that places at the centre of every health system its raison d'être: the health of the human being. I could present an Ethical Charter, which is the fruit of the research and cultural elaboration of HDC, Health-Dialogue-Culture, ... an international cultural initiative promoted by a network of academics, researchers and professionals of various health disciplines with different cultures, skill sets, professions and perspectives. This Ethical Charter for a relationship-based medicine can be found in a volume published by the CNR, the Italian National Research Council. The paper however is not intended to be a concluded, definitive document, but an outline open to further reflections and contributions from experiences. The recommendations contained in this Charter are focussed on relationships between health professionals and managers and between them and users of health services, as key elements of the healthcare system.
The Charter's recommendations are based on some shared principles:

- Social promotion of health resources
- Respect of the person
- Interpersonal and interorganisational dialogue
- Reciprocity

Human relationships are emerging as a key factor not only in the clinical context, but also in the management of the whole health system. Illness and reduction in physical and mental capacity offer the possibility of building genuine relationships between healthcare workers and patients, that in some instances can include the social network around them. These relationships help to give meaning to the illness experience and can be therapeutic for the

health workers themselves. The spiritual dimension is integral to human being and cannot be ignored in any true interpersonal relationship, in particular when it involves people experiencing their frailty. Spirituality is increasingly recognised as a significant aspect of healthcare, which can have a substantial influence on quality of life, satisfaction and outcomes. Both personal and sociocultural context should be taken into account and underpinned. As health contributes remarkably to economic growth and social well-being, the determinants of health should be considered as strategic. Health systems, then, have to look at patients in their wholeness and to respect their complexities and experiences. Reciprocity, together with the care of ecosystems, can become a founding element of current and future multicultural socio-health systems, alternatives to today's tendencies towards individualism and utilitarianism. Reciprocity means that both parties - patient and healthcare provider, but also between professionals and between healthcare services and social bodies, beyond which there are always people... - are available for openness and interest in the meeting as person. Health systems themselves can learn from such healing relationships, improving in terms of organization, effectiveness and sustainability. Furthermore, since each health system is embedded in a broader social, political and economic context, "virtual contagion" of these other systems could occur.

Resignifications of the ñande reko guaraní from the case of rural and community-based tourism Yariguarenda

Ana Inés Frere Affanni[1]

[1]Universidad de Salerno, Italia.

E-mail address: a.frereaffanni@studenti.unisa.it

Abstract

The paper is part of the doctoral thesis entitled Recognition Struggles in Northwest Argentina. Ethnic identities, hybridization and relational ontologies in the case of Yariguarenda Rural and Community Tourism. In this place, near the city of Tartagal, a group of Guaraní ethnic youth has launched a rural and community tourism project, with the initial objective of providing a job option in the face of the economic instability they are going through. At the same time, in a context of strong structural racism, it has allowed its protagonists to proudly affirm their identity and ancestral practices, as well as to defend their territories. In this overview, we will focus on how the young people of the area redefine the Guaraní way of being (ñande reko). We will analyze it from the perspective of relational ontologies that, in dispute with the dualisms of modernity, propose an integral relationship with the entire surrounding environment, and therefore beyond the classic nature-culture distinction. Sustaining practices based on the ñande reko, including those involving tourism — not without tensions, because it requires a certain adaptation to market demands — is a way of proposing more sustainable lifestyles and, in this way, resisting the prevailing extractivism in the area. In this sense, these are alternatives to development through the recreation of "other" worlds and the struggle for the "pluriverse", that is, a world in which many worlds can coexist*.

*Escobar, A. (2015). Territorios de diferencia: la ontología política de los "derechos al territorio". Cuadernos de Antropología Social, 41, 25-38.

Spirituality, contact and care of nature as central axes of transformation in a Psychoimmunoneuroendocrine Integrative Psychotherapy Program to transcend stress

Mgter. Marisel Andrea Martini[1]

[1]General Coordinator Program CCA Con Ciencia y Alma. Hummingbird Club. Córdoba Argentina. PhD student in Psychology UFLO (University of Flores) Graduated from UNC and Favaloro University.

E-mail address: mariselmartini@gmail.com

Abstract

Integrative PsychoImmunoNeuroEndocrine Psychotherapy*, systematized as a model of psychotherapeutic intervention by Dr. Margarita Dubourdieu, Professor Emerita of the Catholic University of Montevideo, proposes a multidimensional intervention for the comprehensive approach of each human being, especially those who suffer from stress. Based on this model and carrying out a new synthesis, with the integration of knowledge from ancestral cultures of the Andes and Central America, I created the CCA Con Ciencia y Alma Program in 2012 for its individual application in the treatment of chronic stress and persistent diseases. In 2024, this program gave rise to the formation of the Colibrí Club, a virtual group program to transcend stress. Providing tools from psychoeducation and clinical interventions in the dimensions: Biological Physical, Emotional Cognitive, Systemic Relational, Socioecological Cultural and Spiritual, this program promotes the central role of Spirituality, contact and care of nature as central axes for personal transformation and social, promoting careful dialogue between the different socio-ecosystems that make up the common home, in favor of health as a shared Good. The interventions and strategies that comprise it for each dimension are presented and experiential testimonies are shared. New perspectives and expansion challenges are projected.

*Duborudieu Margarita (2010) "Integrative Psychotherapy PNIE Psychoimmunoneuroendocrine. Body Mind Environment Integration" Psicolibros Uaslala.

Sports Pedagogy For The Well-Being Of Youth: A Relational Sports Pedagogy Based on Cultural Codes for Universal Brotherhood and Intercultural Dialogue

Sandy Dorian Isla Alcoser[1,2,3]

[1]Posdoctorado en Ciencias del Deporte por la Universidad Federal de Santa Catarina (UFSC) en Brasil.
[2]Profesor en la Universidad Nacional Mayor de San Marcos (UNMSM) en Perú.
[3]Profesor en la Universidad Nacional del Callao (UNAC) en Perú.

E-mail address: sislaa@unmsm.edu.pe

Abstract

The summary of our intervention begins by acknowledging that the world is currently facing severe problems related to coexistence and sustainability, which have led to a decline in values, environmental destruction, racism, discrimination, social unrest, and resentment among human beings. Within this context, youth represent a population at risk due to the life stage where personality and perceptions of the social and environmental surroundings are gradually consolidated. The effects include a loss of purpose in life, attraction to negative influences, distorted interpersonal relationships, inability to resolve conflicts, and, most critically, the loss of social and ecological awareness and commitment. This situation undermines dialogue and fraternity, jeopardizing both society and the environment. To address these issues among youth, it is crucial to develop strategies based on their motivations, with sports being a viable option as it ranks among their main interests. The proposed initiative, "Sports Pedagogy for the Well-being of Youth", integrates RELATIONALITY into sports through cultural codes derived from ALLIN KAUSAY (a South American Indigenous term meaning "good living", encompassing a comprehensive body of Andean theories and practices). The aim is to instill LIFE SKILLS, SOCIALIZATION, CULTURAL AWARENESS, AND ENVIRONMENTAL CONSCIOUSNESS. The activities are inspired by Indigenous organizational structures such as AYNI (reciprocity and mutual assistance), MINKA (voluntary community work), MITA (labor quotas to be fulfilled), TINKUY (encounters), YANANTIN (complementarity), and MASINTIN (affinity), among others.

Sustainability as transgenerational action: participatory methods between opportunities and complexity

Anna Maria Leonora[1], Augusto Gamuzza[1]

[1]Department of Educational Sciences, University of Catania, Catania, Italy.

E-mail address: anna.leonora@unict.it

Abstract

The concept of transgenerationality, understood as the interaction and continuity between actions and responsibilities that span multiple generations, has become fundamental in public and scientific discourse on social and environmental sustainability, particularly in light of the alarming climate crisis. The transgenerational approach thus requires intergenerational cooperation that promotes sustainable and fair actions, where today's decisions are consciously aimed at protecting and improving the future of upcoming generations. In this perspective, participatory methodologies emerge as a promising set of tools to facilitate dialogue and trigger forms of transgenerational collective action. This paper presents a methodological reflection that critically analyzes a recent experience of implementing a participatory research tool (LivingLab) focused on the theme of environmental sustainability. This process of critical review has contributed to the formulation of a set of recommendations aimed at the scalable design and implementation of the results obtained. From initial evidence, the role of participatory methodologies in promoting transgenerational sustainability confirms itself as a promising tool to ensure that today's actions are directed towards fair and sustainable objectives for all generations. Cooperation among institutions, civil society, citizens, educational and research bodies—though neither guaranteed nor easy to facilitate and motivate in the medium to long term—becomes a substrate of experience and connections that structure themselves into co-design networks involving various actors transgenerationally.

Sustainability, Relationship, and Future Generations in the International Regulatory Framework

Sergio Barbaro[1]

[1]Instituto Universitario Sophia, Italia.

E-mail address: avv.barbarosergio@gmail.com

Abstract

The concept of sustainability finds its origin and its first legal declination in several now-old international conventions. The principle first found its place in the Brudtland Report of 1987 and in the first two articles of the UNESCO Convention on the Protection of the World Natural and Cultural Heritage signed in Paris in 1972. The <<juridicization >> of this principle has, however, occurred mainly with the Rio Declaration of 1992 where in Principle 3 it is expressly stated: "The right to development shall be realized in such a way as to meet equitably the needs relating to the environment and the development of present and future generations". The concept of sustainability can be, therefore, legally defined as the need for economic and social development to take place while preserving natural resources for generations to come. Economic development is considered, in fact, sustainable where it allows the needs of present generations to be met without jeopardizing similar needs in the hands of future generations. The concept of sustainability has, therefore, an eminently relational nature. The term sustainability itself is derived from the Latin verb "sustinere". which can be translated in the first instance as "to support, to hold up, to hold up, to carry". The question then arises who supports and what is supported? The present generations should support the generations to come, which are unable to exercise rights and demand obligations because they do not yet exist. It is precisely this lack of reciprocity between the present and the future that constitutes the fundamental problem in legally declining a principle that from an ethical point of view is indisputable. Some state Constitutional Charters have expressly introduced the principle of sustainability and protection for future generations. Article 9 of the Italian Constitution, as recently novated, contemplates reference to the interest for future generations as one of the objectives of environmental protection. The concept of sustainability is forcefully entering the EU's regulatory agenda leading to a desirable but difficult and thwarted attempt to revise the business and economic development model. The EU, within the Green Deal, in fact, hopes, that companies will take on management that, seeks to reconcile capitalist business activity, on the one hand, and the protection of the reproducibility of human life on the planet, on the other hand. Sustainable corporate governance refers to a new model of corporate governance in which sustainability must be integrated more systematically into corporate governance. This new approach thus implies that companies also aim their activities at purposes other than mere profit, such as the welfare of their stakeholders, the relevant community and future generations, the protection of human rights and ultimately the common good of the society. The relevant regulatory framework is represented specifically by the Sustainable Finance Disclosure Regulation (SFDR) by the

Corporate Sustainability Reporting Directive (CSRD) 2022/2464 EU, and finally by the Corporate Sustainability Due Diligence Directive 2024/1760. The latter directive, which has had a troubled and complex genesis, requires, among other provisions, large companies to act with respect for human rights and the environment through the entire production and distribution chain. One of the key provisions of the directive is the introduction of a specific duty of care for managers, who must take into account when acting in the interests of the company, the consequences in terms of sustainability, in the short, medium and long term, of the decisions they make, including, where appropriate, the consequences for human rights, climate change and the environment. establishing that individual states must adopt specific rules in this regard. As a result, the company becomes accountable to the community to which it belongs and to the society in which it is embedded. This perspective is the subject of criticism from the doctrine, which believes that businesses cannot be normatively required to pursue the common good at the expense of mere profit without conflicting with the principle of freedom of enterprise. According to this orientation, by virtue of this constitutionally guaranteed freedom, the achievement of interests additional to profit such as the protection of the environment, the relevant community and the human consortium as a whole can be posited as an additional purpose and only on a purely voluntary basis but cannot be imposed normatively. However, regardless of the ongoing doctrinal debate and the difficulty encountered in passing and enforcing regulations geared toward the common good, it is undeniable that the era of profit monotheism is over and that businesses are now required to take an approach to entrepreneurial activity that is more respectful of extra proprietary interests and that also implies precise responsibilities and duties to parties other than shareholders.

Sustainable project management using metrics - selected social and environmental aspects

Joanna Iwko[1], Aneta Pisarska[2], Jolanta Latosińska[3], Kennedy Mwangi[1]

[1]Wroclaw University of Science and Technology, Poland.
[2]Calisia University, Poland.
[3]Kielce University of Technology, Poland.

E-mail address: joanna.iwko@pwr.edu.pl

Abstract

In recent years, sustainable project management has attracted attention from practitioners and researchers. The significant impact of project activities on society, environment and economy has led to an increased interest in measuring and evaluating this impact. Metrics can be used for this purpose. Metrics offer a solid foundation for calculating and successfully monitoring progress toward sustainability goals (Kerzner, 2017)*. The aim of the article was to show the importance of using metrics in the area of some social and environmental aspects in sustainable project management using a case study. A qualitative research strategy and a single holistic case study was used as a tool of this research. The research information was gathered with the use of the analysis of the reports. The research was carried out in one of the leading project in the field of electromobility. To assess sustainable development, this project used social metrics: community and stakeholder engagement, diversity and inclusion, ethical considerations, job creation, employee well-being and environmental metrics: carbon emissions, energy use, waste generation and water consumption. These metrics were essential to assess the project's alignment with the SDGs and identify areas for improvement. Knowing the metrics, project managers can find a way to build the necessary relationships to achieve sustainability and long- term success, ensuring a prosperous future for people, environment, and society as a whole.

*Kerzner, H., 2017. Project Mangement Metrics, KPIs, and Dashboards: A Guide to Measuring and Monitoring Project Perfomance. 3rd ed., Wiley.

Sustainable Relationality *versus* Narcisism

Alessi Angelo[1]

[1]Psychotherapist Freelancer.

E-mail address: essian46@inwind.it

Abstract

The aspects that characterise the attitude that fosters a sustainable relationality and those that foster a narcissistic mentality are discussed here. Underlying sustainable relationships is a view based on the concept of Integration, both intrapersonal and interpersonal, but also between all living beings and the environment. Every living system is made up of various subsystems that perform specific functions and follow precise rules of self-organisation. Nature itself is subject to the law of environmental balance in which the different living species, as they differentiate, find a dynamic balance and a way of integrating. Sustainable relationships are therefore geared towards following and practising the path of Reciprocity. What happens between human beings and between human beings and the natural environment responds, for better or for worse, to the law of Reciprocity, whereby an action taken by one inevitably corresponds to an action by the other. We live today in a culture in which the narcissistic attitude is very much in vogue and is not only relegated to a psychopathological clinical picture, but has become a common attitude, so frequent and so culturally generalised as to assume the characteristics of a normo-pathology. The narcissistic mentality, unlike the sustainable relationship, is governed by a unilateral vision that, for reasons that will be discussed, does not take into account the other: the other as a person, but also the other understood as the natural environment. The grandiose idea of oneself finds no limits to the use made of one's neighbour, as an object and no longer a subject, and finds no limits to the abuse of nature and the exploitation of resources.This non-integrated and irrational vision therefore requires the urgency of abandoning the sense of grandeur and omnipotence in doing whatever one wants, it requires overcoming the mechanism of denial with regard to climate catastrophe, the over--exploitation of materials and the unjust distribution of wealth. It is then necessary to recognise that there is a limit, a boundary zone beyond which one can humbly realise one's own state of dependence on fellow human beings and the environment in which we live.

The 4 Sustainabilities Model: A Tool for Redesigning Organizations

Alberto Frassineti[1]

[1]Istituto Universitario Sophia, Loppiano, Firenze, Italia.

E-mail address: alberto.frassineti@gmail.com

Abstract

The paper is part of the debate concerning organizational studies and it presents a model of sustainability analysis developed by "fieldwork" through consultancy activities to "organizations in service of a charism (OSC)". These are specific organizations, often linked to the ecclesial context, which express the need to combine the safeguarding of original values with the variety of their interpretations, taking also into account the ever more evident multiculturalism of their members. The model, rooted in a vision of total sustainability (TS) of the organization, simultaneously considers 4 dimensions of sustainability, with a non-additive but multiplicative relationship among them: charismatic (CS), which includes all the instances of aim and purpose for which the organization was born and its ultimate goal is that of safeguarding the original inspiration of the organization's values; relational (RS), linked to the idea that values act through people, relationships between them and with the community; ecclesial (KS), considering the contribution offered by the organization to a similar higher organization as well as the impact on society and the needs of humanity; economic (ES), linked to all the resources and the use of goods, taking into account the value of natural environment. By means of this tool, the paper displays the fundamental characteristics of the model and presents, as example, a case of its application, by suggesting the possibility of exporting it to other kind of organization (profit, non-profit, etc...), considering the need to replace the charismatic sustainability with a value-based one (VS) and the ecclesial sustainability with a social one (SS).

The alchemy of nature: *Leptospermone* in agriculture from a relational perspective

Onofrio Cozzolino[1], Papa Stefania[1]

[1]Dipartimento di Scienze e Tecnologie Ambientali Biologiche e Farmaceutiche, Università della Campania "Luigi Vanvitelli", 81100 Caserta – Italy.

E-mail address: stefania.papa@unicampania.it

Abstract

Allelopathy is a biological phenomenon whereby a plant releases chemicals into its environment to help other plants grow, survive, or reproduce. These substances, called allelochemicals, can inhibit or stimulate and are natural mechanisms of interspecific competition. One of the most studied allelochemicals is leptospermone, originally purified from *Callistemon citrinus* (biosynthesised almost exclusively by *Myrtaceae plants*). It is a particularly successful example of using a natural product as a template to develop synthetic herbicides. Leptospermone is a natural β-tricheton that specifically inhibits the enzyme p-hydrophenylpyruvate dioxygenase, the same molecular target site as the commercial herbicide mesotrione. This natural compound may offer an alternative to synthetic chemical herbicides, reducing the negative impact on the environment, and has attracted interest for its potential use in sustainable agricultural practices. Unlike traditional herbicides, it may have fewer side effects on non-target organisms, helping to preserve biodiversity. A study was carried out on how leptospermone affects soil bacteria. Despite relatively rapid degradation, leptospermone altered soil microbial community composition and diversity. These changes were transient, and the microbial community recovered its original composition and diversity. However, microcosms where leptospermone was present failed to recover. Managing allelopathy using leptospermone is aimed at balancing agricultural efficiency and environmental protection. Sustainable practices based on allelopathy require a thorough understanding of ecological dynamics to promote a symbiotic relationship between humans and natural ecosystems, avoiding overexploitation or resource degradation. It is an example of how allelopathy can contribute to more sustainable and environmentally friendly agriculture.

The challenges of agriculture

Gabriel Espósito[1]

[1]Departamento de Producción Vegetal. Facultad de Agronomía y Veterianria. Universidad Nacional de Río Cuarto.

E-mail address: gesposito@ayv.unrc.edu.ar

Abstract

The global population growth rate is decelerating, yet projections indicate that the human population will reach 11 billion by 2100. While food production has historically mirrored population growth, shifts in purchasing power have led to changing consumption patterns, driving up demand for calorie- and protein-rich foods. The finite and overexploited arable land base, coupled with processes such as erosion, monoculture, and soil degradation, has strained the relationship between society and its environment. The displacement of rural populations and the industrialization of agriculture have exacerbated these issues. To mitigate these pressures, it is imperative to adopt production techniques that maintain soil cover, utilize precision agriculture tools, and leverage technological advancements. The restoration of mixed farming systems can facilitate soil fertility, nutrient cycling, and greenhouse gas mitigation. Moreover, the development of integrated production systems within multifunctional landscapes, informed by social consensus, can ensure sustainable growth while fostering social cohesion, creating new job opportunities, and safeguarding natural resources and biodiversity.

The challenge of relationality to deal with natural disasters

Alessio Valente[1]

[1]Dipartimento di Scienze e Tecnologie, Università degli Studi del Sannio, Benevento, Italia.

E-mail address: valente@unisannio.it

Abstract

More and more frequently we are faced with serious disasters caused by natural calamities occurring in different areas of the world. Such events help create gestures of solidarity, even towards affected populations thousands of kilometres away. While these gestures are extremely valuable, they remain temporary and sometimes ineffective in dealing with disasters. Instead, it is believed that disasters must be tackled by taking into account the interactions between natural elements, social bodies and economic agents. An earthquake, a flood, a landslide are dangerous events that affect an area, usually a known or estimated area. On this area, man continues to act unconcerned about the danger; on the contrary, he often subjects those populations and activities to certain damage. If one is forced to do so, one should invest in educational and economic terms by trying to make those populations capable of withstanding those phenomena, i.e. to make those infrastructures or productive activities less vulnerable. Dealing with disasters by disregarding these aspects means preventing the well-being and sustainable development of that territory. Therefore, once the danger of that area is defined, those who live and work there must be made aware of it, and at the same time define the responsibilities of those who administer that area and those who act on it. Rediscovering one's own sense of limits (knowledge, institutional and economic power) can contribute. Triggering relationships between everyone makes it possible to oppose or at least mitigate the effects on the environment and populations caused by disasters.

The contribution of communication sciences to relational sustainability

Isabel Gatti[1]

[1]NetOne/Sophia ALC (Argentina).

E-mail address: isabel.gatti@gmail.com

Abstract

Through this presentation, I intend to highlight the contribution of the communication sciences, particularly in Latin America, to the interdisciplinary approach proposed by the relational sustainability paradigm. The contribution of our region can be identified with the axiological paradigm promoted by the Andean cosmovision, which is resumed in two words: "good living". This is expressed -at a theoretical and practical level- in the accompaniment of sensibilization processes that promote an integral ecology in order to generate a transforming power of the social structures that today produce the destruction of our planet. Our interests include the promotion of critical thinking in relation to the appropriation of different technologies, promoting their responsible use. The topics of focus include themes from social networks to fake news and artificial intelligence. At the same time, together with other humanities and social sciences, we promote the study of communities that, by their actions, manage to make choices in favor of the common good, generating cases of humanization, in the broadest sense of this concept. For decades, Latin America has been offering alternative and community communication experiences in which people, starting from very precarious living conditions, through the use of analog and digital media, manage to improve the living conditions of their territories, achieving, in many cases, true integral and inclusive development.

The built and the virtual environment: How architecture, engineering and design impact on relational sustainability

Renzo Andrich[1]

[1]The Global Assistive Technology Information Network (EASTIN), Italy.

E-mail address: renzo@andrich.cloud

Abstract

Some years ago, an Italian journalist, Mr Franco Bomprezzi (1952- 2014) – a well-known advocate of human rights and an activist in organizations of people with disability (himself being a wheelchair-user due to a congenital condition) – wrote this interesting sentence in the preface to an architecture handbook: *"If I were Beelzebub, the devil, and I had to decide which category of people to place in the darkest and most terrifying part of hell, I would certainly put architects. Do you know why? Because they are the main ones responsible for our disability: they are the ones who build the barriers that hinder our life.*". I think he said something very true, albeit in a playful way; I only would add to architects also engineers (as I am myself) and designers, in general all those involved in the design of the built environment (buildings, urban spaces etc) and all products, technologies and services we use in daily life and in the virtual world (operating systems, websites, online services etc.). This sentence also highlights that disability is not an attribute of the person: it is a situation the person may experience when his or her physical or cognitive limits conflict with barriers. In fact, the World Health Organization defines disability as something opposed to functioning[1]; the UN Convention on the Rights of Persons with Disabilities speaks of persons with disabilities[2] , thus highlighting that first comes the person as a whole, and disability only arises when he or she interacts with barriers[3] . This concept is also reflected in the motto of the European Academy of design and disability: "good design enables, bad design disables"[4]. The point is: the way we design the environment or products or services used in daily life may generate inclusion or exclusion for certain groups of population. Disability is just one example – probably the most understandable one, as disability is present in every community all over the world – of how architecture, engineering and design generate inclusion (relational sustainability) or exclusion (relational unsustainability) in society. The same concept may also extend to other population groups such as immigrants (e.g. the "ghetto" factor of having them together in separate housing instead of distributing them among people in the community) or children/youngsters (e.g. lack of well-conceived gathering spaces fostering the sense of community) or elderly (sometimes forced to move to residential long-care facilities as their homes and neighborhoods are made in a way they can't live safely and independently). Sometimes it is the technology itself that creates new barriers for groups of population that had never existed before (think e.g. the "digital gap" generated by digital devices or services that are not designed

in an user-friendly manner for those who are not "digital natives", or the AI-based systems that select the news to be shown on the landing page of a web browser, based on the detection of the user's interests, often polarizing the public opinion around different views, one opposing to the other, that don't exist in a reasonable debate). Coming back to the initial example, the "integral ecology" perspective – which indicates a sustainable planet in terms of both nature and humanity – reframes the concept of disability. For sure a person may have a limit (motor, visual, hearing, intellectual, relational), however this does not automatically involve a disability (incapability to function in a given context) unless a barrier creates it. This means that the "sick" to be cared for is society, not the person who is made "disabled" by barriers or unfit services or unavailable technology. The idea of an accessible environment – a world in which no one, regardless of their physical or cognitive condition, encounters any more architectural or technological or social barriers that affect their mobility, limit their relationships and prevent their full realization as persons and as citizens – can no longer be confined to utopia. Today, at the dawn of the third millennium, this dream must become a reality: this is a prerequisite for the realization of an inclusive society. A society which is inclusive of people with disabilities is a better society for all[5].

[1]See WHO's International Classification of Health, Functioning and Disability (ICF) biopsychosocial model.

[2]Article 1 paragraph 2 of the UN Convention reads: "Persons with disabilities shall include those with long-term physical, mental, intellectual or sensory disabilities who, in interaction with various barriers, may prevent their full and effective participation in society on an equal basis with others."

[3]A simple example: I may move about independently with my wheelchair on a road without barriers, but I get stuck in front of a staircase if this is the only way to go; that is, I can "function" perfectly in certain situations, and be "disabled" in others.

[4]https://dfaeurope.eu/what-is-dfa/dfa-documents/the-eidd-stockholm-declaration-2004/ retrieved on April 30, 2024.

[5]The concept of inclusiveness is often mentioned in the 17 Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda, among the primary indicators of the quality and sustainability of the social fabric: for instance, it is quoted in SDG 11 (Sustainable Cities and Communities), SDG 10 (Reducing Inequalities), SDG 4 (Equal and Quality Education), SDG 8 (Decent Work and Economic Growth) and SDG 17 (Partnership for Objectives).

*Draft contribution to the session coordinated by Dr. Luca Fiorani.

The 'environmental' ethics of the indigenous peoples of the Andes of America, based on the principles of Buen Vivir (Sumak Kawsay)

Inés Marlene Lovato[1]

[1]Salesian University, Commercial Engineering with a Specialization in Business Administration, Quito, Ecuador.

E-mail address: marlenelovatos@gmail.com

Abstract

From Sumak Kawsay emerges *the holistic understanding of the cosmos*, the existence of the being in community within an eminent relationship with nature, in conditions of harmony and balance from and towards itself. It is understood that the universe, both physical and metaphysical, during life and even after it, is related and forms an indivisible and unbreakable unit. Community coexistence recognizes the being in its particular identity and within a unit where it is made and ratified integrally, based on:

P. Relationality, as the beginning of the existence of reality, implies the impossibility of dissociation of the subject and the object.

P. Correspondence, where the extremes correspond harmonically, relate to each other as equivalents, celebrate diversity and recognize the transcendence that one has in the other.

P. Complementarity, integrality is perceived in a complementary relationship with its corresponding diversity.

P. Reciprocity, each relationship-action is bidirectional, reciprocal. *Where the 'gift' as an act of giving surpasses the earthly sphere and transcends to the mystical sphere.* Economic practices must reproduce the reciprocity that preserves the community and the universe.

Andean ethics, therefore, is that of duty-being and duty-doing in order to maintain the reciprocal vital relations of the cosmos, preserving the natural order that leads to the harmony of us. On the one hand, it refers to the human being and the internal relations with his peers. On the other hand, it recognizes the human being as a corresponding and complementary part of the cosmos; both realities form the Whole, each one with reciprocal and equivalent responsibilities*.

*Estermann, J. (1998). Andean Philosophy: Intercultural study of indigenous Andean wisdom (First edition). (2015) Beyond the West: Philosophical notes on interculturality, decolonization and the Andean Living Well (First edition). Abya-Yala Editions.

The importance of measuring and managing environmental impact: UCC's experience in the use of GreenMetric

Soledad Perfumo[1], Gonzalo Mozas[1]

[1]Universidad Católica de Córdoba.

E-mail address: vri@ucc.edu.ar

Abstract

The Catholic University of Cordoba (UCC) has implemented the GreenMetric ranking as a strategic tool to measure and manage its environmental performance. Through this instrument, the institution quantifies its progress in achieving the Sustainable Development Goals (SDGs), particularly those related to climate action and the life of terrestrial ecosystems. UCC's experience with GreenMetric has been highly positive. By assessing aspects such as energy, water, waste, transportation, education and research, the university has gained a comprehensive view of its environmental impact. This information has been crucial to identify areas for improvement, to develop more efficient strategies to reduce our environmental impact and to prioritize actions such as monitoring and reducing our carbon footprint. In addition to serving as an internal management tool, GreenMetric allows UCC to communicate its environmental achievements to the university community and society at large. By involving us in this evaluation process, the university has succeeded in fostering a culture of sustainability and environmental responsibility. In conclusion, the GreenMetric has become an enriching tool for UCC on its path towards sustainability. The results obtained demonstrate that it is possible to integrate the environmental dimension in all activities of a higher education institution and thus contribute to a more sustainable future. The importance of measuring and managing environmental impact: UCC's experience in the use of GreenMetric.

The Logic of Sufficiency: Rethinking Lifestyles and Energy Policy

Marta Oliveira Panão[1]

[1]Universidade de Lisboa, Faculdade de Ciências, Lisboa, Portugal.

E-mail address: mopanao@ciencias.ulisboa.pt

Abstract

This paper explores energy sufficiency as a crucial pillar in decarbonization, alongside efficiency and renewable energy. Inspired by the CLEVER report, it distinguishes sufficiency as an approach that reduces energy demand through moderated consumption, rather than solely through efficiency improvements. This approach raises the question: "How much is enough, and how much is too much?"—a perspective championed in Thomas Princen's The Logic of Sufficiency*, which critiques society's obsession with maximizing efficiency at the cost of increased consumption. Historically tied to energy conservation, sufficiency has been overshadowed by efficiency in policy. Yet, actions such as setting moderate indoor temperatures or choosing appropriately sized appliances (1) align energy use with genuine need. For instance, the energy efficiency fallacy shows that energy labels, focusing on relative rather than absolute consumption, often promote larger appliances that inadvertently increase demand. The paper also challenges the perception of sufficiency as a personal virtue rather than a societal value that could inform policy. It concludes with three guiding principles: "Less is enough", advocating minimalism; "Having enough, and no more", "which emphasizes needs-based consumption"; and "Finding fair alternatives", encouraging creativity in meeting needs sustainably. Ultimately, sufficiency is presented as a cultural shift, urging a collective reevaluation of energy use to foster a sustainable future.

*Marta Oliveira Panão. Energy ratings as drivers of energy sufficiency in residential buildings: A comprehensive review and future directions, Energy and Buildings, 320, 114583, 2024.

The Transformative Power of Culture: Positive Socio-environmental Change and Relational Sustainability (Bogotá - Distrito Capital, Colombia)

Edimer Albeiro Pardo-Flórez[1], Maria Yaneth Munevar Galvis[2], Jhoan Stiwen Sandino Sandoval[2], Dulce Luna Menco Quintero[2], Sneyder García Jiménez[3]

[1]Centro de Pensamiento "La Esperanza" Don Pedro Laín Entralgo, Universidad La Gran Colombia, Bogotá, Colombia.
[2]Colegio Parroquial La Asunción, Sibaté, Cundinamarca, Colombia.
[3]Universidad Católica de Colombia, Bogotá, Colombia.

E-mail address: edimer.pardo@ugc.edu.co

Abstract

The Transformative Power of Culture: Positive Socio-environmental Change and Relational Sustainability This paper analyzes how culture, through solidarity education and prosocial learning, can be a transformative agent to generate positive changes in the relationships between people, society and the natural environment. Based on the research project Emerging Economic Systems: A Contribution to the Integral Development of the Human Being, and in collaboration with the Research hub on Service Learning and Universidad La Gran Colombia, practical experiences such as the Solidarity Culture Fair are highlighted. The approach includes methodologies such as the Ecological cube and the 6x1 Methodology, implemented in schools in Bogotá and the parochial school La Asunción of Sibaté, Colombia. These tools seek to empower students and educators to lead socio-environmental impact projects, promoting a culture of relational sustainability that recognizes the interdependence between humans and nature. The integration of natural and human sciences is key to generating a new synthesis that fosters a respectful dialogue between people and their environment. The project has had a significant impact in Sibaté and surrounding areas, developing socio-environmental awareness and building a culture of sustainability. Through collaboration between governments, businesses, non-profit organizations and citizens, a resilient, cohesive and just future is sought. This holistic approach addresses the environmental crisis and lays the foundation for a lasting transformation in the relationship between humans and nature.

Towards an Equitable and Sustainable Future: Integrating Ecology and Relational Sustainability

Edison Barbieri[1]

[1]Instituto de Pesca da Secretária da Agricultura do Estado de São Paulo, Divisão de Maricultura, Base de Cananéia. Cananeia/São Paulo, Brasil.

E-mail address: edisonbarbieri@gmail.com

Abstract

The pursuit of a sustainable world requires a deep understanding of the complex interactions between humans and the environment that surrounds them. In this context, ecology emerge as fundamental pillars in the proposal of relational sustainability, offering valuable insights and essential tools to guide our actions towards a more balanced and prosperous future. The contribution of natural sciences to relational sustainability is crucial. Ecology, in particular, the science that studies the interactions between organisms and the environment, provides a robust conceptual framework for understanding natural systems and their dynamics. It helps us recognize the intricate web of life and the delicate balances that sustain our planet's ecosystems. By understanding patterns of species distribution, food chains, energy and matter flows, we can make more informed decisions on how to conserve and manage our natural resources sustainably It is important to emphasize that in ecology nothing makes sense except in the light of evolution.Ecology offers us a unique perspective on life on Earth. It shows us how species adapt to the environment over time, developing characteristics that give them competitive advantages. By understanding evolutionary processes, we can appreciate the incredible diversity of life and recognize the intrinsic value of each organism. This leads us to adopt a more holistic and inclusive approach in our conservation efforts, recognizing that all species have an important role to play in global ecosystems. The contribution of ecology to the proposal of relational sustainability is essential for several reasons. First, it helps us recognize the interdependence between all living beings and the environment in which we live. By understanding that we are all connected in a vast web of life, we are encouraged to adopt practices that promote the health and resilience of ecosystems as a whole, rather than seeking short-term benefits for humans alone. Additionally, ecology provides us with powerful tools to predict and mitigate the impacts of global environmental changes. By studying how organisms respond to environmental disturbances, we can develop more effective strategies to address emerging challenges such as climate change, biodiversity loss, and ecosystem degradation. Ultimately, the contribution of ecology to the proposal of relational sustainability helps us build a fairer, more equitable, and harmonious future for all forms of life on Earth. By recognizing our deep connection to the natural world and adopting an approach based on mutual respect and cooperation, we can work together to create a planet where all species can thrive. To achieve an ecologically balanced environment, we must first overcome poverty and inequality, but to do so, it is imperative to adopt a comprehensive approach that recognizes the interdependence between social, economic, and environmental issues. Through the lens of relational sustainability, we can better understand how to promote socio-economic systems that are aligned with the limits of the environment and the needs of all people. This requires investment in educational and training programs, ensuring equitable access to essential resources such as clean water and nutritious food, and fostering economic opportunities for marginalized communities. Additionally, public policies must address the structural roots of poverty and inequality, including the fair redistribution of resources and opportunities. By adopting a collaborative and holistic approach, we can forge a future where everyone has the opportunity to thrive while protecting the ecosystems that sustain life on Earth.

For a perfect integration of Ecology with relational sustainability, it is imperative to adopt some public policies that include:

Environmental Education: Implementing educational curricula that integrate concepts of ecology and evolution from elementary school to higher education. This will help increase awareness of the interdependence between living beings and the environment, empowering future generations to make informed and sustainable decisions. Implementing environmental education programs that promote awareness of the importance of biological and cultural diversity, as well as the interdependence between humans and the environment. These programs should be accessible to all layers of society, aiming to reduce educational disparities and promote social inclusion.
Biodiversity Conservation: Developing conservation policies that take into account the principles of ecology and evolution. This includes creating and protecting natural areas, restoring degraded ecosystems, and implementing measures to protect threatened species from extinction.

Sustainable Natural Resource Management: Establishing regulations and management practices that ensure the sustainable use of natural resources, taking into account ecological principles such as nutrient cycles and ecosystem carrying capacity.

Climate Change Adaptation: Developing climate change adaptation strategies based on an understanding of evolutionary processes. This may include promoting genetic diversity in vulnerable populations, restoring natural habitats, and implementing resilient agricultural practices.

Promotion of Sustainable Agricultural Practices: Encouraging agricultural practices that respect ecological principles, such as organic farming, agroecology, and permaculture. This will not only promote soil and water conservation but also contribute to food security and public health. Developing policies to support sustainable agriculture and family farming, promoting the diversity of agricultural crops and the use of production techniques that respect ecological principles. This will not only contribute to the conservation of agricultural biodiversity but also provide livelihoods for rural communities, combating poverty and reducing inequalities.

Policies for Sustainable Urban Development: Integrating ecological and evolutionary considerations into urban planning, promoting the development of green cities, with green areas, accessible public spaces, and sustainable infrastructure.

Incentives for Sustainable Technological Innovation: Establishing policies to encourage research and development of technologies that promote sustainability, such as renewable energies, efficient public transportation, and clean production techniques.

Social Protection Programs and Poverty Alleviation: Implementing social protection and poverty alleviation programs that take into account the specific needs of the most vulnerable populations, such as indigenous peoples, traditional communities, and rural residents. These programs should ensure access to basic services such as health, education, and sanitation, as well as promote productive inclusion and economic empowerment of these communities.

Policies for Inclusion and Land Access: Developing policies for inclusion and land access that guarantee the rights of traditional communities and indigenous peoples to the sustainable use of natural resources, respecting their traditional knowledge and promoting biodiversity conservation.

Encouragement of Sustainable Entrepreneurship: Create policies to encourage sustainable entrepreneurship, supporting initiatives that promote nature conservation and social inclusion. This may include subsidies, special credit lines, and training for small entrepreneurs who develop businesses focused on environmental conservation and income generation for marginalized communities.
These are just some policy suggestions that can be developed based on the principles of ecology and evolution, contributing to a more holistic and sustainable approach to environmental and natural resource management.

Towards an ethics of relationality (Pergamino - Luján, Argentina)

Susana Pistorale[1] Mariela Borgnia[2,3]

[1]Ethics Committee in research and use of experimental animals of the National University of the Northwest of the Province of Buenos Aires (COENOBA), Pergamino, Province of Buenos Aires, Argentina.

[2]Dept. of Basic Sciences, National University of Luján (UNLu), Luján, Province of Buenos Aires, Argentina.

[3]Institute of Ecology and Sustainable Development (INEDES, UNLu-CONICET).

E-mail address: susanapistorale@gmail.com

Abstract

The inadequate application of techno-scientific knowledge about the Biosphere has led to the current ecological crisis, which has been addressed by natural sciences, sociology, psychology, and bioethics, among others. The latter refers both to bio-socio-humanistic issues and to the impact on the biosphere itself. We propose an environmental ethic based on responsibility, promoting awareness and a reassessment of the care for life, oriented towards future generations. The realisation of a good environment is necessary to guarantee human rights (HR), and these rights are essential to having a good environment. Law must be able to address the serious and unresolved socio-environmental issues we face today. While the theory of human rights is necessary, it is insufficient as a rational framework for an environmental ethic. We need a paradigm shift with new principles and criteria, reinterpreting Potter's and Leopold's ideas of "Bridge Ethics" and "Land Ethics". We propose an ethic of relationality and the continuity of life, not as a means of moralising, but as a way to challenge humans to reflect on who we are, what place we occupy, and what we do. A radical change is necessary, with a perspective of ethics as linguistic praxis, as it has the potential to inspire the reformulation of human rights and foster the development of an approach that prioritises its relational dimension, inspired by the profound human vocation to live not only alongside others, but above all, for others.

Understandings of the Natural World and Political Ecology of the Indigenous Cultures of the Americas: An Ethnohistorical Overview

Osvaldo Barreneche[1]

[1]CONICET - Universidad Nacional de La Plata, Argentina.

E-mail address: osvaldobarreneche@gmail.com

Abstract

The theme of the inaugural lecture for this academic event seeks to open up the temporal dimension for understanding the contemporary issues that will be addressed in the following days of the Congress. It is situated in the continental American space, in the period preceding the European invasion, to provide an overview of the diversity of cultures in this vast territory. Their particularities, as well as the common elements regarding their understanding of the natural world, integrated into their respective worldviews, are highlighted. The concept of political ecology offers a dynamic perspective on the temporal development of these relationships with the environment, which were later impacted and transformed by the colonial period. In this way, we move away from a utopian and idyllic view of indigenous cultures to attempt to understand the changing relationships between these cultures and the American natural world, which lead us to the present. The approach is based on the conceptual and methodological contributions of Ethnohistory, a branch of History that specifically studies the cultures of indigenous peoples through various sources.

Education and relational sustainability: caring for and empathy keys to reciprocity

Maria Teresa Siniscalco[1]

[1]INVALSI expert and President of ADi, Association of Italian Teachers and school Heads

E-mail address: mtsiniscalco@outlook.com
mtsiniscalco@gmail.com

Abstract

The crisis humanity is going through is a relational crisis and requires a relational response at all levels. This contribution considers relational sustainability from the perspective of education. A number of voices, up to the target 4.7 in the fourth SDG of the UN Agenda 2030, urge for a change of paradigm in education to include the capacity to live together in a sustainable way. In the last decades several definitions and frameworks have been developed on the concept of "global competence", considered as crucial to live together in a multicultural world. Research studies are considered to elucidate the characteristics of an educational relationship which promotes global competence and therefore sustainability. Evidence suggests that such an educational relationship encompasses the cognitive and affective dimensions and generates a dynamic of reciprocity at various levels.

The web of life: reconnecting with nature's relational balance for a sustainable future

Stefania Papa[1]

[1]Dipartimento di Scienze e Tecnologie Ambientali Biologiche e Farmaceutiche, Università della Campania "Luigi Vanvitelli", 81100 Caserta – Italy

E-mail address: stefania.papa@unicampania.it

Abstract

Our planet is undergoing significant transformations driven by human-induced environmental changes such as pollution, climate change, deforestation, and the overexploitation of resources. These disruptions threaten the natural balance that has supported life for millions of years. Among these, climate change stands as the most pressing challenge, with global warming accelerating glacial melting, intensifying extreme weather events, and altering ecosystems. Vulnerable communities, especially in low-income countries, bear the brunt of these impacts despite contributing the least to greenhouse gas emissions. This injustice underscores the need for global action. Amid these crises lies a lesser-known narrative: the profound interconnectedness of life forms within ecosystems. From plants cooperating through underground fungal networks to symbiotic relationships between animals and plants, nature thrives on mutual aid and balance. However, modern lifestyles have distanced us from this relational understanding. Practices such as monoculture farming and urbanization have disrupted ecological networks, diminishing biodiversity and resource sustainability. Furthermore, our psychological disconnection from nature—spending more time in artificial environments—has negatively impacted mental well-being and health, highlighting the importance of biophilia, our innate connection to the natural world. Recognizing the relational dynamics in nature offers valuable lessons: cooperation and balance are fundamental to life. By embracing these principles, we can address environmental crises, foster sustainable practices, and restore our sense of belonging to a larger ecological system. This shift not only mitigates environmental degradation but also enhances human well-being and ensures a harmonious future for generations to come.

CENTRO UNIVERSITÁRIO
SÃOCAMILO