

PRESENTATION

With great satisfaction, we publish another edition of the Revista Binacional Brasil-Argentina: diálogo entre as ciências (RBBA), a publication that establishes itself as an interdisciplinary space for academic and scientific reflection and collaboration among researchers from different areas of knowledge. Organized by the Museu Pedagógico da Universidade Estadual do Sudoeste da Bahia (UESB, Brasil) and the pelo Programa de Pós-Graduação em Didáctica de las Ciencias Experimentales da Universidad Nacional del Litoral (UNL, Argentina), it reaffirms its commitment to integrating high-quality scientific production with the publication and dissemination of generated knowledge.

This edition embodies the result of intense research work and collaboration among scholars and researchers committed to scientific production and dissemination, offering valuable critiques and encouraging further research in the addressed areas. In this sense, it brings together a variety of works that cover a wide range of relevant scientific topics, reflecting a diversity of approaches. Comprising an interview, an essay, a dossier, continuous-flow articles, and a review, the RBBA delivers significant contributions in the fields of Applied Sciences, Technology, History, Sociology, Education, Politics, Health, Biology (especially Bioethics), Environment, and Social Work, from multi- and interdisciplinary perspectives.

The works gathered in this edition stand out for their academic and social relevance, offering theoretical reflections resulting from investigations and practical experiences. They underscore the binational and plural nature of the journal, enriching dialogues and enabling meaningful exchanges among Brazil, Argentina, and other nations that host the researchers contributing to this edition. In doing so, they strengthen ties between academic communities and reinforce RBBA's role as a space for the convergence of knowledge and practices.

In line with this purpose, we open this edition with an essay titled **Between the Planet's Climate, Ecological, and Social Crisis: Are There Still Paths for Resistance and Utopias?**, written by Dario Azzellini. The essay addresses the multiple crises currently faced by humanity, focusing on the climate catastrophe and ineffective structural countermeasures, exploring North-South, class, and gender relations as essential elements for a holistic interpretation of sustainability. It emphasizes the need for a just transition, advocating for the revaluation and decommodification of labor. Finally, it analyzes the role of utopias in resistance movements

from a socialist-Marxist perspective, highlighting concrete practices such as worker self-management and local self-governance based on non-representative democracy, understood as the concept of a commune.

The Dossier. In 2024, six years have passed since the publication of volume 7, number 2 of RBBA, which presented a dossier titled **Bioethics, Environment, and Human Rights**, coordinated by María Eugenia Chartier and Alejandro Raúl Trombert Universidad Nacional del Litoral (UNL, Argentina), along with Bruno Ferreira dos Santos and Ana Cristina Santos Duarte (UESB, Brazil).

In the few years since that publication, unprecedented phenomena have occurred, such as the COVID-19 pandemic, which had consequences not only for health—especially public health—but also generated profound social, economic, and environmental repercussions. Additionally, it is worth highlighting the resurgence of armed conflicts in different parts of the world (Ukraine and Russia; Israel and Palestine, to name just two examples). Simultaneously, an increase in inequalities and a growing shift to the right in politics at both regional and global levels have been observed. In this context, the accelerated scientific and technological development in the field of biotechnologies over recent decades, combined with a promising new era of Artificial Intelligence (AI), once again requires that bioethical discussions center on the relationships between science, technology, and society.

Understanding that current living conditions demand innovative, bold, and profound reflections that invite observation, knowledge construction, and the generation of alternative proposals on topics such as education, health, environment, and scientific-technological development, RBBA proposed this dossier titled: **Biotechnologies, Artificial Intelligence, and Health: (Bio)ethical Dialogues in a World in Crisis**. Organized by Professors María Eugenia Chartier (UNL e Universidade Nacional de Entre Ríos - UNER, Argentina), Alejandro Raúl Trombert (UNL, Argentina), and Murilo Mariano Vilaça (Fiocruz/ENSP, Brazil), it features works by researchers from Argentina, Brazil, and Mexico.

Offering various reflections on the relationships between scientific-technological development in these areas and its social, cultural, political-economic, legal, educational, ethical, and bioethical consequences, the dossier begins with the article titled **Knowledge and Education in the Age of Artificial Intelligence**, written by Andrea Pacífico. This work examines how AI is transforming the relationship with knowledge and its construction, reconfiguring both teaching and research practices.

Next, María Eugenia Chartier and Rosario Paulini, in their work titled **Ethical Considerations on the Use of Artificial Intelligence in Professional Practices in Human Nutrition**, propose reflecting on the ethical implications currently posed by the generation and use of AI in health, particularly concerning the practices of nutrition professionals, for whom this represents both a scientific-technical and ethical challenge.

Subsequently, Murilo Karasinski, in the article **Technological Convergence and Health: Bioethical Challenges in a Context of Transformation**, demonstrates how, in the 21st century, Technological Convergence (TC)—comprising nanotechnology, biotechnology, information technology, and cognitive sciences (NBIC)—is profoundly transforming society and creating new possibilities for science and technology, shaping humanity's future. In times of global crisis, reflecting on these innovations and their impacts is essential to ensure that the benefits are widely shared while maintaining a balance between technological advancement and human values.

María de Jesús Méndez Verduzco and Omar Fernando Becerra Partida, in **Roboethics and the Rights of Robots in Mexico: An Ethical and Legal Challenge**, address roboethics as an emerging field essential for tackling the ethical and legal challenges arising from the development of increasingly sophisticated robots. Closely connected to this work, Florencia Romina Gianfelici, in **The Regulation of Damages Caused by Artificial Intelligence: Perspectives from Argentine Law**, analyzes civil liability for damages derived from Artificial Intelligence (AI), reviewing the assumptions of liability applicable under Argentina's current legal regime and considering robots and other AI-governed devices, activities, or processes as subjects of law.

Two articles link AI to research in human health. The first, authored by Jorge Mariano Ferroni and Pablo Francisco Parenti and titled **Ethical and Regulatory Challenges of Artificial Intelligence in Medical Research**, addresses the ethical and regulatory challenges of using AI in medical research, emphasizing the importance of a regulatory framework that facilitates the ethical and safe development of the technology. The second, titled **Transforming Medicine: A Critical Analysis of the Main Ethical Challenges in Integrating Artificial Intelligence into Evidence-Based and Personalized Medicine**, was written by Alejandro Raúl Trombert. This work, starting from the understanding that AI has the potential to significantly transform both evidence-based and personalized medicine, examines the ethical considerations its use presents in both models.

The last article in the dossier, titled **The Regulatory Challenge of Biotechnology and Its New Applications: CRISPR-Cas9 and Its Application in Human Germline Cells**, was written by Bárbara Carollo de Almeida Winter and Murilo Mariano Vilaça, both from the Fundação Oswaldo Cruz, Rio de Janeiro, Brazil. In this work, the authors map and analyze the regulation of CRISPR-Cas9 biotechnology, which has revolutionized the field of genetic technologies due to its efficiency and precision in gene editing, as well as its low cost and ease of use compared to other techniques.

The dossier concludes with an interview titled **Artificial Intelligence and Its Implications in Health, Work, Reproductive Genetic Technologies, and Changing Values: An Interview with Jon Rueda**, conducted by two of the dossier's organizers, Murilo Mariano Vilaça and Alejandro Raúl Trombert. Dr. Jon Rueda is a moral and political philosopher interested in studying public controversies, particularly those related to morality, technoscience, and the future, often at their intersections.

We can assert that the dossier **Biotechnologies, Artificial Intelligence, and Health: (Bio)ethical Dialogues in a World in Crisis** reflects the urgent need to address the complex challenges arising at the intersection of science, technology, and ethics. Through the contributions presented, the social, cultural, and ethical implications of innovations in biotechnology and artificial intelligence, as well as their effects on human health and well-being, are made evident.

In the repertoire of continuous-flow articles, reflections from the field of Humanities predominate, engaging in interdisciplinary dialogue with other fields. Among these, two texts belong to the area of Education. The first, titled **Conceptions of Science Among Biology Teachers: A Study in the Context of Secondary School - Argentina**, authored by Sofia Sol Martin and Maria Basilisa García Bachi, analyzes the conceptions of science held by biology teachers in state teacher training programs in Argentina, relating them to variables such as age, training, and experience. The research results highlight the need for continuous training programs that promote reflection on teachers' beliefs and encourage the adoption of constructivist representations, resulting in effective changes in science teaching practices. In the second, Karolayne Nunes dos Santos Freitas, in **The Construction of Antiracist Education from a Garantist Perspective**, examines antiracist education in Brazil through the lens of Luigi Ferrajoli's garantist perspective and legislation, using a bibliographic-documentary approach. The study investigates the right to education under equal conditions,

highlighting the legal and legislative progress made and the political challenges that hinder the implementation of antiracist educational policies.

Five texts approved by the reviewers for the continuous-flow article section span the areas of History, Politics, Sociology, Social Work, and Health.

The first, titled **Negationism, Revisionism, and Public History – Brazil: Between Weapons and Books from a Critical Perspective**, reflects on negationism during the Brazilian military dictatorship (1964–1985). Through an analysis of the documentary **1964: Brazil Between Weapons and Books**, produced by Brasil Paralelo, Cristiano Lima Ferraz, João Henrique Rocha da Silva, and Emanuelle da Silva Freitas critique the material, concluding that it adopts a distorted revisionist bias, disregarding scientific parameters in historical research and aiming to legitimize contemporary political and social interests. The study emphasizes the urgency for historians to debate and construct Public History based on science, combating historical falsifications and ideologically biased revisions.

The second text, written by Suzane Tosta Souza, Jânio Roberto Diniz dos Santos, and Tiê Santos de Almeida, titled **Land Structure Concentration and Land Conflicts in Municipalities of Bahia Crossed by the Ferrovia de Integração Oeste-Leste (FIOL)**, analyzes the spatial transformations and social inequalities caused by large infrastructure projects, focusing on the Ferrovia de Integração Oeste-Leste. Using data from IBGE, INCRA, and the Comissão Pastoral da Terra, the research demonstrates increased land concentration and conflicts in the municipalities of Bahia crossed by the railway.

The third text belongs to the field of Social Work. Titled **Social Policies and Public Fund in the Current Context: Some Reflections for Social Work**, written by José Carlos do Amaral Júnior, it provides a bibliographic-documentary analysis of social policies in Brazil, highlighting their relationship with public funds and the impacts on Social Work. It notes that, with the reconfiguration of public funds in late capitalism, social policies have become targets for dismantling and disputes over resources.

In **Sustainable Development: In Search of a Concept**, Murilo Luiz Gentil de Oliveira and Bruna Guimarães Gentil analyze the concept of sustainable development, emphasizing its complexity and controversy in contemporary society. The text underscores the connection between human rights, quality of life, and sustainability, proposing a critical and holistic approach to understanding and applying the concept of sustainable development.

In the fifth and final text from the Humanities, addressing a Health-related topic, Jairo David Giron Ibarra, Ninfa Rosa Mejia Florez, and Eduin Fabian Ramos Bolaños discuss the use of digital tools in mental health treatment with a focus on anxiety disorders, highlighting their impact on emotional, psychological, and social well-being. Titled *Digital Tools in Mental Health: An Alternative for Managing Anxiety*, the article points out that technology presents itself as an innovative and accessible resource for addressing mental disorders and promoting public mental health.

The last article in the continuous-flow section comes from the field of Physics and presents a historical study on humanity's understanding of the speed of light, with a focus on the contributions of Ole Rømer in the 17th century. Titled **The Investigations and Historical Experiments That Led to the Determination of the Speed of Light: Part 1**, written by Carlos Takiya and Luan Santos Lemos, the text explores human curiosity about light and its properties, addressing how this knowledge was gradually constructed until its scientific consolidation.

Finally, closing this edition of RBBA, Cristian Di Renzo reviews the work **1983: Transition, Democracy, and Uncertainty**, authored by Marina Franco, highlighting its analysis of the Argentine political and social context in 1983. The reviewer asserts that this work is essential for understanding Argentina's recent history, offering a perceptive and rigorous view of a period marked by democratic transitions, political uncertainties, and social complexities.

As reflected in the final structure of this RBBA edition, we continue to promote dialogues that transcend disciplinary and national boundaries, highlighting the importance of interdisciplinary and collaborative approaches to addressing contemporary global challenges. The discussions in this issue not only aim to identify the dilemmas faced by humanity in times of crisis but also to outline paths toward a more equitable and responsible future. Thus, the importance of fostering interdisciplinary dialogue that upholds human dignity and fundamental rights in the context of technological advancement is reaffirmed, ensuring that these developments benefit society as a whole and do not perpetuate pre-existing inequalities.

We publicly express our gratitude to the authors who contributed their work, to the reviewers who ensure the transparency and quality of the publications, and to the editors whose dedication made this edition possible. We invite readers to explore the articles and draw inspiration from the reflections presented here, reaffirming RBBA's commitment as a space for

the exchange of ideas, innovation, and dialogue among sciences. We wish everyone an enriching reading experience!

RBBA Greetings,

José Rubens Mascarenhas de Almeida, Responsible Editor

María Eugenia Chartier, Alejandro Raúl Trombert e Murilo Mariano Vilaça, Dossier Organizers