



MONOGRAPH

EVERYTHING IS CHEMISTRY

Challenges for a sustainable future

Monograph coordinated by Lluís Pascual

Learning to transform matter – whether by cooking food or turning minerals into materials for making tools – has been key to the development of human societies. Everything we are and do is in some way chemistry. In the Age of Enlightenment, with the lucid impetus of Antoine Lavoisier and his wife Marie Anne Paulze, this ancient knowledge became a scientific discipline. Like a spark falling on a powder keg, it would ignite the great social transformations of the 20th century. New industries emerged that filled our lives with colourful materials, plastics, with almost infinite uses; developed new generations of medicines that killed off endemic diseases; and provided agricultural inputs – fertilisers and pesticides – that boosted food production on an unprecedented scale. Chemistry has undoubtedly improved our quality of life, but it has sometimes been misused, overshadowing the important role it has played and continues to play in the development of a world that must necessarily become more sustainable.

Today, this leadership may seem relevant to other disciplines. Gene editing and the exploration of the subatomic world are now at the forefront of scientific research. So, at a time when science is becoming increasingly multidisciplinary, can we foresee chemistry once again becoming central to the challenges facing our civilisation?

Throughout this monograph, various authors will argue that it can. In the face of a future marked by uncertainty, especially due to the climate crisis, chemistry still has important cards to play. These include tools to rethink the production model, new technologies to change the agricultural model to reduce emissions, strategies to facilitate the availability of materials for a rational energy transition, and elements to improve global health, both human and environmental. All these reasons prove that this old science has not yet said its last word.

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Ángela Bassano (Buenos Aires, 1968) illustrates the interior separators in this issue. Her creations are inspired by nature, intangible and invisible to the human eye. They are the forms and colours of energy that the artist «sees» through intuition. In the previous page, Ángela Bassano. *Surreal*, 2023. Paint, photography, and digital collage, 80 × 60 cm.