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Nota di contenuto	Cover -- Half-Title Page -- Title Page -- Copyright Page -- Contents -- Introduction -- Part 1. Nanomaterials and Nanotechnologies -- Chapter 1. Carbon-based Nanomaterials -- 1.1. Fullerenes -- 1.1.1. Properties of fullerenes -- 1.2. Carbon nanodiamonds -- 1.2.1. Principal techniques used in creating nanodiamonds -- 1.2.2. Key properties of nanodiamonds -- 1.3. Carbon dots or carbon quantum dots -- 1.3.1. CQD production methods -- 1.3.2. Fluorescence properties of CQDs -- 1.3.3. CQD applications -- 1.4. Carbon nanotubes -- 1.4.1. Chirality of carbon nanotubes -- 1.4.2. Mechanistic models of CNT growth -- 1.4.3. CNT arrays aligned horizontally or perpendicularly to a planar substrate -- 1.4.4. Key properties and applications of CNTs -- 1.4.5. Conclusion -- 1.5. Graphene -- 1.5.1. Electrical properties of exfoliated graphene -- 1.5.2. Graphene production techniques -- 1.5.3. Applications of graphene and graphene derivatives -- 1.5.4. Conclusion -- 1.6. Graphene quantum dots -- 1.6.1. GQD production methods -- 1.6.2. Properties and applications of GQDs -- 1.6.3. Graphdiyne: a new alternative to graphene -- 1.7. Conclusions and perspectives of

carbon-based nanomaterials -- Chapter 2. Inorganic Nanomaterials -- 2.1. Metallic nanoparticles -- 2.1.1. Gold nanoparticles (Au NPs) -- 2.1.2. Core-shell type bimetallic nanoparticles -- 2.2. Metal nanoclusters -- 2.2.1. Production methods for gold nanoclusters -- 2.2.2. Structure and stability criteria of Au NC -- 2.2.3. Luminescence properties of Au NCs -- 2.2.4. Applications using the luminescent properties of Au NCs -- 2.2.5. Conclusion -- 2.3. Semiconductor quantum dots -- 2.3.1. Development of colloidal QDs -- 2.4. Two-dimensional inorganic lamellar nanosheets -- 2.4.2. Conclusion -- 2.5. Hybrid metal-organic frameworks -- 2.5. Hybrid metal-organic frameworks -- 2.5.1. MOF production.
2.5.2. Potential applications of MOFs -- 2.5.3. Conclusions -- 2.6. Conclusions on inorganic nanomaterials -- Part 2. Nanotechnology and Nanomaterials for Energy -- Chapter 3. Energy Storage -- 3.1. Worldwide energy use -- 3.2. Energy storage systems -- 3.2.1. Non-chemical/electrochemical storage -- 3.2.2. Chemical and electrochemical storage systems -- 3.2.3. Rechargeable batteries -- 3.2.4. Supercapacitors -- 3.2.5. Pseudocapacitors -- 3.3. Conclusions on energy storage -- Chapter 4. Energy Conversion -- 4.1. Photovoltaics -- 4.1.1. General principles of the photovoltaic process -- 4.1.2. Photovoltaic technologies -- 4.2. Electroluminescence, lighting and display -- 4.2.1. Inorganic light-emitting diodes -- 4.2.2. Organic light-emitting diodes -- 4.2.3. QDot light-emitting diodes -- 4.3. Conclusions on energy conversion -- Chapter 5. Electro- and Photocatalysis -- 5.1. Water splitting -- 5.2. Electrolysis techniques -- 5.3. HER and OER processes in water splitting -- 5.3.1. HER in an acidic medium -- 5.3.2. HER in alkaline media -- 5.3.3. Conclusions on HER reactions -- 5.3.4. Catalysts for oxygen evolution reaction -- 5.4. Photoelectrochemical water splitting -- 5.4.1. Heterogeneous photocatalysts -- 5.4.2. Photocatalytic systems with two SC heterojunctions -- 5.4.3. Conclusions -- 5.5. Fuel cells -- 5.5.1. Operating principle of a fuel cell -- 5.5.2. Choice of O2 reduction catalysts -- 5.5.3. Conclusions on electrocatalysis and photocatalysis -- Conclusion -- References -- Index -- Other titles from iSTE in Energy -- EULA.

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Autore	Kuhne Olaf
Titolo	The Closed Society and Its Ligatures—A Critique Using the Example of 'Landscape' / / by Olaf Kühne, Karsten Berr, Corinna Jenal
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Nota di contenuto	Introduction -- Open Societies as Guarantors of Life Chances -- Morals, Moralizations and Landscapes -- Open and Closed Societies -- Landscapes as Consequences and Side Consequences of Enmity to the Open Society -- ... and then probably the Open Society with its Landscapes after all -- The Open Society and its Life Chances - a Condensate as a Conclusion.
Sommario/riassunto	In the face of great challenges, utopian thinking is currently in vogue. The fact that utopias, with their ideas of an idealized target society, are not compatible with the basic features of an Open Society was already pointed out by Karl Popper in his book 'Die Offene Gesellschaft und ihre Feinde' (The Open Society and its Enemies) under the impression of National Socialism and Stalinism. In the present book, further forms of Closed Societies and the principal similarities (and differences) of their construction are examined. This is done by drawing on Ralf Dahrendorf's concept of life chances, in which he deals with the interaction of options and ligatures. The ambivalence of Dahrendorf's

understanding of ligatures, since they restrict options on the one hand, but also give them meaning on the other, is resolved by a threefold differentiation: into ethical and moral, internally and externally directed, and explicit and implicit ligatures. While the former are capable of enabling life chances, the latter tend to limit them. Based on this, the authors elaborate on the landscape (side) consequences of different Closed Societies and how ill-suited they are for dealing with current challenges. The authors Dr. Dr. Olaf Kühne is professor of Urban and Regional Development at the University of Tübingen. Dr. Karsten Berr is a research associate in the research group on Urban and Regional Development at the University of Tübingen. Dr. Corinna Jenal is an academic councillor in the research group on Urban and Regional Development at the University of Tübingen.