

# **Emergence and Evolution of Meaning: The GDI Revisiting Programme Part 2: The Regressive Perspective: Bottom-Up**

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Though the hermeneutical cycle could be represented by the famous adagio of Heraclitus “the way up and the way down is one and the same”, in strict sense the cycle of interpretation is intrinsically irreversible. Such irreversibility is also inherent to thermodynamic and informational cycles, as well as to the evolution of complexity in the universe from the most elementary interaction of matter – as represented by spin networks – to the creation of molecules, biological structures, cognitive and social systems, as discussed in the first part. Such argued “skeleton-of-the-universe” provides as well an upwards path to the hierarchical evolution of complexity, as a downwards path to interpret and modify reality. The argued fundamentality in the emergence of regularities and meaning imposes essential constraints to the interaction with the world when we aim at interpreting it. One of these emergencies – relevant to our means of awareness – is represented by electromagnetic fields, which correspond to the regularity arising from the interaction of a more elementary level of matter. Our vision (even if assisted by microscopic techniques) is strictly constrained to the structural regularities of the electromagnetic fields. It is easy to show from the corresponding structural constraints that the world is not as we observe it. However, since we are products of the world as well – i.e. attached to the same skeleton-of-the-universe –, the very complexity of our mechanism of awareness has the possibility of creatively imagining reality, similar as the world creates it. Information – in a cognitive sense, which can be derived from a wider perspective of information in other natural processes – correspond to the actualization of this creative imagination while interacting with the world. This interaction imposes a non-reversible path in the interpretation of reality.