

# Levels of Reality and GFO

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The lecture reports on aspects of ontology research carried out by the research group Onto-Med. Onto-Med is developing a top-level ontology, called GFO (General Formal Ontology), which is a foundational ontology integrating objects and processes. We assume that the world is organized into *strata*, and these strata are classified and separated into *layers*. The term *level* denotes strata and layers, and we distinguish at least three ontological strata of the world: the material, the mental/psychological, and the social stratum. Every entity of the world participates in certain strata and layers. We take the position that the levels are characterized by integrated systems of categories. Hence, a level can be understood as a meta-category whose instances are categories of certain kinds. Among these levels specific forms of categorial and existential dependencies hold. For example, a mental entity requires an animate physical object as its existential bearer. We use the matter-form distinction to explain and understand certain relationships between certain kinds of entities. Thus, the atom may be understood as the matter of the molecule, the latter being already endowed with form, the molecules are the matter of the cell, and cells are the matter of multi-cellular entities. The passage from the material to the mental level and the social level cannot be understood as a matter-form dependency, here something new occurs with a new series of forms. The social stratum captures phenomena of communication, of economic and legal realities, language, science, technology, and morals etc. The psychological/mental stratum may be divided into the layer of awareness and the layer of personality. Awareness comprises most of what is studied by cognitive science (perception, memory, reasoning, etc). Personality on the other hand concerns the phenomenon of will and the way in which someone reacts to her experiences. On the one hand, the social stratum is divided into Agents and Institutions. Agents are the bearers of the social roles that humans play. Institutions are defined as systems of interrelated social components. On the other hand, a social system can be seen as a network in which businesses, politics, economy, art, language (and many more other facets) both present their own features *and* influence each other. The basics of the ontology GFO are already established with respect to the material level. The lecture gives a review about the main results of the material stratum and sketches some new ideas about the social stratum, in particular about the ontological foundation of political economy.