# Introduction to basic concepts

The following paragraphs explain core CRM concepts. The CIDOC CRM relies on the top level concepts of E77 Persistent Item, equivalent to the philosophical notion of endurant; E2 Temporal Entity, equivalent to the philosophical notion of perdurant and further introduces the concept of E92 Spacetime Volume.

The CRM describes entities which remain relatively stable with the passing of time (E77 Persistent Item) and have identity based on the continuity of their significant properties. These include, among others, monuments (e.g. E22 Human-Made Object) and mental ideas (e.g. E28 Conceptual Object). These entities are prone to change through human activity, biological, geological or environmental processes, but are regarded to exist as long as such changes do not alter their identity (essence). For example, the Great Sphinx of Giza may have lost part of its nose, but there is no question that we are still referring to the same monument as that before the damage occurred, since it continues to represent significant characteristics of an overall shaping in the past, which is of archaeological relevance.

The CRM also includes entities (E2 Temporal Entity), which are themselves time-limited processes or evolutions within the passing of time. They necessarily involve an affected material, social or mental environment, in the form of E77 Persistent Items or continuous substance, such as the atmosphere. They include, among others, making things by humans (E12 Production) and geological events (E5 Event). Once these entities occur, they can only be experienced through observation or recordings. Evidence of such entities (E2 Temporal Entity) may be preserved on material objects being permanently affected or recorded through oral history.

Therefore, a basic distinction of records modelled through the CRM is between instances of E77 Persistent Item (endurants) and instances of E2 Temporal Entity (perdurants). In most cases, this distinction is adequate to describe database records. In exceptional cases, where we need to consider complex combinations of changes of spatial extent over time, the concept of spacetime (E92 Spacetime Volume) also needs to be considered. E92 Spacetime Volume describes the entities whose substance has or is an identifiable, confined geometrical extent that may vary over time, fuzzy boundaries notwithstanding. For example, the built settlement structure of the city of Athens is confined both from the point of view of time-span (from its founding until now) and from its changing geographical extent over the centuries, which may become more or less evident from current observation, documents and excavations. Even though E92 Spacetime Volume is an important theoretical part of the model, it can be ignored for most practical documentation and modeling tasks.

We explain these concepts with the help of graphical representations in the next sections.