1. Introduction

Subjects live with objects[1]: they observe objects, create objects, and use objects. The τ-theory (the Greek letter "τ" is pronounced as "TAO", which stands for "Teleology Affordances Ontology") is a theory about subjects (with purposes) and objects (with properties), and the possible relationships between them. It is rooted in the philosophical branches of teleology, including praxeology (the economic study of human action), and of ontology, including mereology (the study of wholes and parts), and etiology (the study of causation), as well as in the theory of affordances, and in systemics (the holistic and mathematical study of systems).

In *ontology*, objects are studied as they are, how hey are composed of parts, of which substance the parts are, how the parts are connected, etc., completely disregarding the purpose(s) subjects could use them for. The ontological point of view allows us to discern objects and their properties in an objective way. For example, you may observe a tree-stump (object), whose height is about 50 cm (property).

In *teleology*, objects are studied as purposive entities. For example, human beings (subjects) are considered to have needs or desires and seek to satisfy them by using objects (including other human beings) in ways that satisfy their needs. In doing so, the subjects strive to achieve their purposes. This understanding of subjects and their purposes is sufficient for studying the τ-theory. However, one may extend the theory by elaborating the praxeological part in teleology (including decision theory). This would lead to letting subjects attribute value to objects, depending on the degree in which the objects fit their purposes. We will elaborate this extension of the τ-theory also briefly.

The teleological and ontological points of view are bridged by the notion of affordance[2]. The basic idea in the *theory of affordances* is that subjects, in their pursuit of satisfying needs, do not primarily perceive objects and their properties but the affordances that the objects offer them, i.e. the potential usages that the objects may have (which ultimately are made possible, of course, by the properties of the objects). For example, if you (*subject*) want to sit (*purpose*), you may perceive that you can sit (*affordance*) on the tree-stump (*object*) you see, because the height of its surface (*property*) fits your purpose. In order to refer to this affordance, Gibson would say that the tree-stump is 'sit-on-able' for you.

This extended summary presents and discusses the main topics and achievements of the τ-theory, including its relationship with the other enterprise engineering theories, as mentioned in the classification scheme in figure 1.1 (in this scheme, the main influences are from bottom to top).

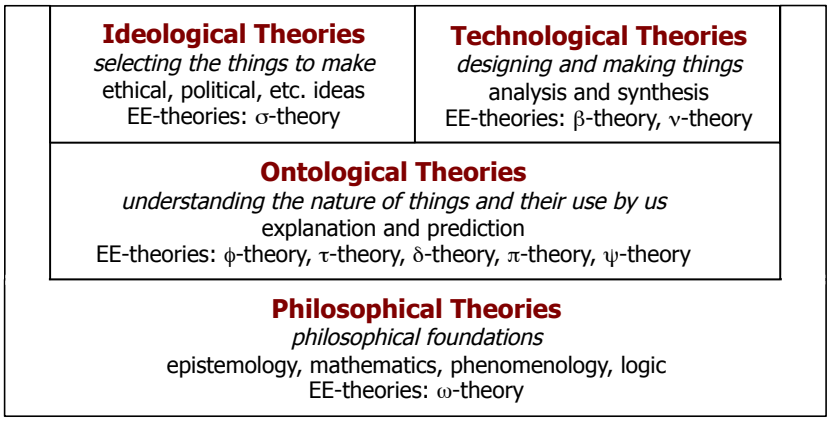

Figure 1.1 Classification scheme for enterprise engineering theories

The τ-theory is an *ontological* theory, which means that it concerns understanding the nature of things and their use by us, human beings. The next core concepts are clarified by the τ-theory: subject, object, affordance, value, function, construction, system, model. The next core concepts are taken from other EE-theories: state, action (from the δ-theory), semiotic triangle (from the ϕ-theory).

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[1] The word "object" refers to anything that a subject may consider to exist or to be able to exist, including animate things.

[2] Affordance is a term coined by the ecological psychologist James J. Gibson.

2. Affordance and function

Teleology (from Greek telos: purpose; logos: reason), is the branch of philosophy, in which one tries to explain the behavior of human beings (and other animate things) to their purpose(s). For the scope of the τ-theory, the core notions in teleology are *subject* and *purpose*. Ontology (from ontos: being; logos: reason) studies questions concerning the nature of things, irrespective of any purpose for which someone would use them. Ontology[3] investigates three phenomena: first what things really are (core ontology), second how things are composed of other things (mereology), and third, what the causes are of its operation (etiology). For the discussion in this section, the core notions in ontology are *object* and *property*. A typical *teleological* statement regarding the human heart is that it pumps blood through the veins, in order to provide all organs with oxygen and nutrition (and other useful things). Apart from being teleological, this statement is also an anthropomorphic metaphor, drawn from our experience with artificial, man-made, pumps. A typical *ontological* statement regarding the human heart, is that its muscles alternately contract and relax and by doing so cause the blood in the veins to flow.

In order to bridge the gap between teleology and ontology, we use the theory of affordances [Gibson 1979]. Gibson defines *affordances* as "... all action possibilities that are latent in the environment, objectively measurable and independent of the individual's ability to recognise them, but always in relation to agents (subjects) and therefore dependent on their capabilities. For example, an affordance of terrestrial surfaces is that they offer support to human beings (and animals); they are 'stand-on-able'...".

The core notions concerning affordances, are summarised in Figure 2.1. Let us repeat the example from the Introduction in order to clarify the schema: if you (*subject*) want to sit (*purpose*), you may perceive that you can sit (*affordance*) on a tree-stump (*object*), because the height of its surface (*property*) fits your purpose. So, whereas the purposes of subjects are purely *subjective*, and the properties of objects are purely *objective*, an affordance is a *subject-object* relationship. Because of the unlimited imagination of the human mind, the number of affordances that an object may offer is basically unlimited. Note that the being subjective of an affordance implies a dependence on the abilities of the subject: for a 2-year old child, the above mentioned tree-stump is not 'sit-on-able', and for a physically disabled person, a ladder is not 'climb-able'.

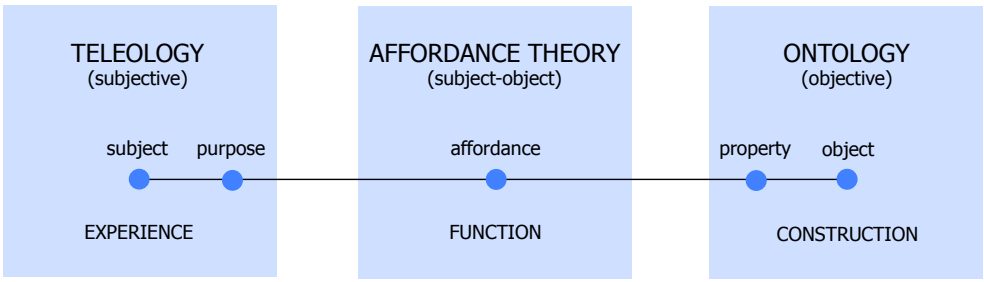

Figure 2.1 Core objects of study in the τ-theory

Chemero [2003] has elaborated on Gibson's theory and on other definitions of affordance. He concludes that the only sustainable definition of affordance is what Gibson basically already proposed, namely that it is a relationship between a subject (with a purpose) and an object (with a property). We add to it that subject/purpose, affordance, and object/property correspond respectively with the experience, function, and construction perspective on things (Cf. Figure 2.1). In the construction perspective one regards things as they are; different subjects , applying the same ontological theory, observe the same thing. In the function perspective, one regards what affordances a thing could provide; different subjects may perceive the same affordances in a thing, but the thing may also provide different affordances to each of them. In the experience perspective one regards the purely subjective mental sensation that an affordance evokes; different object/property combinations that provide the same affordance (e.g. sit-on-able) may evoke different experiences to the same subject (e.g. an armchair evokes another experience than a tree-stump).

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[3] A special and currently popular branch of ontology focusses on how things can be grouped according to similarities and differences. This special branch of ontology, which actually is taxonomy, is addressed in the ϕ-theory [TEEM-4].

To illustrate the notion of affordance, have a look at Figure 2.2. It exhibits four different affordances that a tree branch may offer to people, for four different purposes. The top left picture shows various shapes of branches that could be used as walking stick (Note: actually, the sticks shown are artefacts; to be discussed later). Proceeding clockwise, the affordances ‘drying clothes’, ‘making fire’, and ‘extinguishing fire’ are shown.

Figure 2.2 Example affordances of a tree branch

Chemero articulated the basic understanding of affordances as relationships by introducing the mathematical notation of a relation (slightly adapted by us):

Affordance: (*Subject* * *Purpose*) * (*Object* * *Property*)

In their eternal search for satisfying needs, subjects also create objects, next to using natural objects. Such objects are called *artefacts*. They are designed and made with some affordance(s) in mind. These affordances are commonly called the *functions* of the artefact. Examples: the function of a chair is to sit on (a chair offers the affordance sit-on-able), and the function of a table is to sit at (a table offers the affordance sit-at-able). Figure 2.3 exhibits the function (lower right picture) and some other affordances of an umbrella. Proceeding anti-clockwise, we see the affordance ‘sun protection’, ‘hitting’, and ‘hiding (of a gun)’. Obviously, for the last affordance, the shield cannot be transparent. This holds also for ‘sun protection’ but not for the other two affordances. Note that almost all nouns by which artefacts are referred to, do already convey their (primary) function. For the ontological modelling of worlds (Universes of Discourse) this is a huge complicating factor, because one seeks for objective, constructional things, instead of functional ones. This topic is elaborated in the ϕ-theory [TEEM-4].

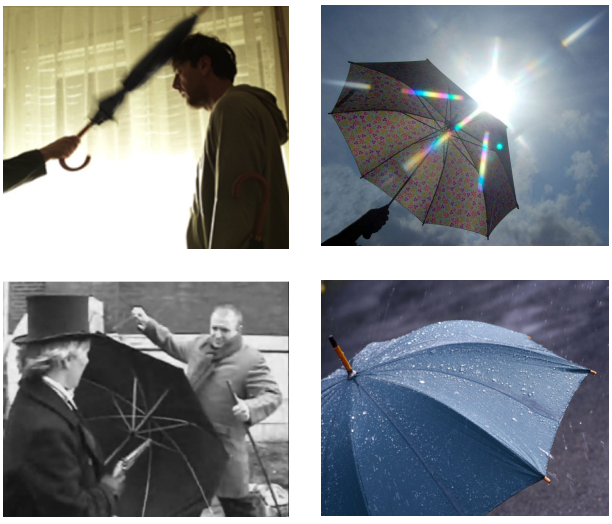

Figure 2.3 Function and other affordances of an umbrella

Next to designing and making objects (artefacts) with some function in mind, one can also assign (new) functions to existing objects (whether they are artefacts or not). For example, a municipality can declare a particular paved area in the middle of the town to be a parking lot (most of the time), or a marketplace (every Tuesday), or a fairground (sometimes). One can rightfully say then that being a parking lot, a marketplace, and a fairground, are distinct *functions* of the paved area. At the same time, the paved area may have many other *affordances* for various groups of stakeholders (roller skate ground, dancing place, meeting place, etc.).

3. Function versus construction

The function(s) of an artefact is/are made possible by its *construction* (Cf. Figure 2.1): the parts it is composed of, their interconnections, and the substances the parts are made of, and all other properties. This basic understanding holds also for non-artefacts: their affordances are made possible by their construction. As subtle as the difference between function and construction may look sometimes, it is conceptually immense, and it has far reaching consequences for the proper understanding of things, and for their design (Cf. β-theory [TEEM-8]). Therefore, let us have a closer look, while taking cars as the example objects.

3.1 Construction

Taking the *construction* perspective on a car, we perceive the car as a material thing with several inherent properties: it has spatial dimensions, it has mass, it has temperature, it can move, etc. We can also observe that the car is composed of parts, because we can dissemble it, if we like. The distinctive characteristic of the construction perspective is that we take the position of an *objective* observer. The assumption is that two different persons, equipped with the same generic knowledge of the construction of cars (i.e. knowledge of the parts and of assembling principles), observe the same features of the car, and thus would have the same constructional understanding of it. Therefore, ontological statements are said to be objective[4]. Figure 3.1 exhibits a part of the constructional decomposition of a car. It shows that the construction of a car is a tree structure of parts and sub parts (the bill of material). There is only one way to decompose or disassemble a car, as there is also only one way to reconstruct it. The manifestation of a system's construction in the course of time is called its *operation*.

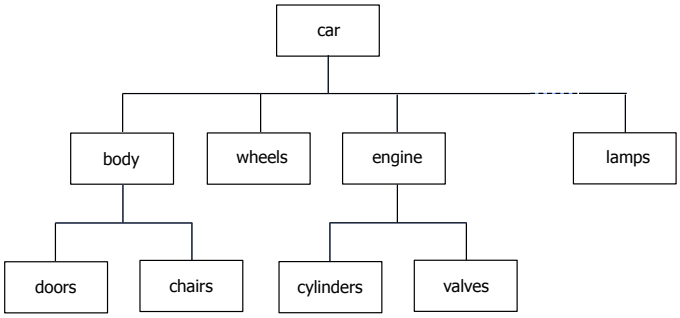

Figure 3.1 Constructional decomposition of a car

3.2 Function

Taking the *function*[5] perspective on a car, we perceive the affordances that the car offers, which depend on the purposes we have in mind, as discussed before. For example, we could think of driving the car (which is usually the intended affordance or function), of using it as a shelter, of listening music in it, etc. The distinctive characteristic of the function perspective is that we take the position of a *subjective* observer. We have or devise purposes for which we could use the car. Next, we look at the car through our 'lens of purposes' and 'see' the affordances that the car offers.

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[4] It is not our intention to ignore the philosophical discussions about objectivity. Perception is always 'colored' by the theoretical glasses of the observing subject. The important point is that this subject does not 'look for' affordances.

[5] The use of the word "function" and "functional" here is so common that we will conform to it, instead of sticking puritanically to "affordance".

Two different persons, equipped with the same generic knowledge of things, could easily 'see' different affordances that are offered by the car, fully dependent on the purposes they have in mind. Therefore, the functional definition of a car (or of any other thing) is indefinite. The same holds for a functional decomposition of the car (or any other thing). The one shown in Figure 3.2, will probably be helpful for car drivers. It is quite useless, however, if one wants to use the car as a shelter. What it shows is that the function driving is composed of a number of sub functions, like powering and steering. Each of them may be further decomposed. Clearly, a functional decomposition and a constructional decomposition (CF. Figure 3.1) are fundamentally different, and generally there is no simple mapping between them because one is purely objective and the other is a relationship between a subject (or a homogeneous group of subjects) and an object.

Let us have a brief look at how (sub) functions are operated (to be elaborated in the β-theory [TEEM-8]). The criterion in functional decomposition is that the lowest level components (the 'leaves' of the tree) can be operated directly through some user-system interface. In Figure 3.2, the 'leaves' are colored grey. Further decomposing makes no sense. Going upward from the 'leaves' to the 'root', the tree structure is indeterminate. Different persons may devise different structures between the (same) 'root' and the (same) 'leaves'.

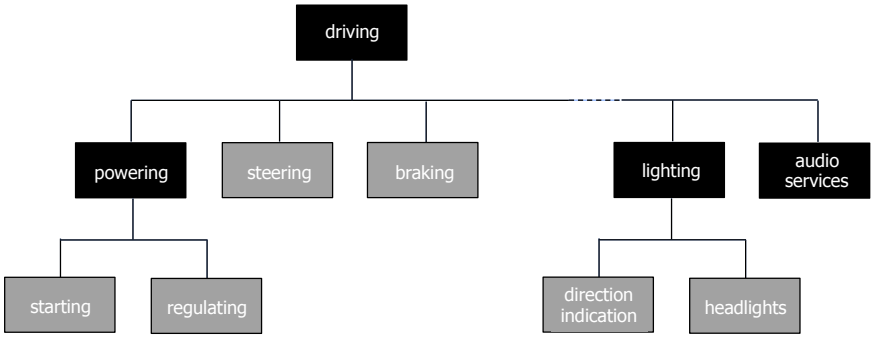

Figure 3.2 Function decomposition of the driving function of a car

3.3 The paradox of Theseus

In order to illustrate and emphasise the importance of the distinction between function and construction, let us have a look at the so-called paradox of Theseus, as formulated by the Greek philosopher Plutarch:

The ship wherein Theseus and the youth of Athens returned from a long journey was preserved by the Athenians by taking away the old planks as they decayed, putting in new and stronger timber in their place. In the end, all parts of Theseus' ship are replaced. The philosophical question, as formulated by Plutarch, is this one: is the ship the same ship or not?

The key to an appropriate solution of the paradox is to recognize that we are dealing with two ships: the constructional ship and the functional ship. The *constructional ship* is the objectively observable assembly of parts. Is this ship the same when all parts are replaced by similar other ones? Obviously not. As soon as one part is replaced, it is already not the same ship anymore. According to the ϕ-theory [TEEM-4], replacing parts does not affect, however, that the ship is still an instance of the same type. That is why people tend to say that it is the same (constructional) ship. This argument is supported by the distinction between matter-constant and form-constant, as made by Simons [Simons 1987].

Thomas Hobbes added the next extension to the paradox. Assume that all parts are replaced and that the 'old' ship is rebuilt by assembling the 'old' parts. Then which ship is Theseus' ship? Clearly, there are two different constructional ships, with separate identities. The answer to the property question is dependent on the prevailing law. In current western law, disposing things means that you are not the owner anymore.

The *functional ship* is constituted by the affordances that the constructional ship offers to Theseus. It allows him to achieve particular purposes, like sailing. As long as the constructional ship he is using, offers to him these affordances, it is the same functional ship to him. This functional ship will not change if parts of the constructional ship are replaced. Only if one would disassemble the constructional ship, the functional ship would vanish, but only temporarily. As soon as it is re-assembled, the functional ship appears again. Note that for the ship engineers, the constructional ship remains to exist, it is only temporarily dissembled.

4. Systems

According to the discussion above, we can discern two system notions: the constructional and the functional notion. The *constructional* system notion is concerned with the construction and the operation of a system. Following Mario Bunge [1979], it is defined as follows: something is a system if and only if it has the following properties:

Composition: a set of elements that are atomic in some category (physical, social, etc.).
Environment: a set of elements of the same category; the composition and the environment are disjoint.
Structure: a set of interaction bonds among the elements in the composition, and between them and the elements in the environment.
Production: through their interaction, the elements in the composition and the environment produce things.

The category of a system and the atomicity of its elements are important notions. For example, the elements of a social system are social individuals (subjects) and the elements of a biological system are biological cells. A system becomes active or operational as soon as the elements in the composition and the environment start to interact by virtue of their mutual interaction bonds. As explained above, the nature of this interaction is fully determined by the system's category. Consequently, the interaction between biological cells is very different from the interaction between social individuals. For the latter category, we speak of coordination instead of structure (Cf. ψ-theory [TEEM-5]).

Systems within one category are called *homogeneous*. Homogeneous systems in the same category can interact, but interaction between (homogeneous) systems in different categories is impossible. However, homogeneous systems may be combined to *heterogeneous* systems by virtue of some integrating principle. For example, a human being is a physical system, but also a chemical one, and a biological one, etc. The wholeness of the human body integrates these homogeneous systems in one heterogeneous system. This is the basis for understanding, for example, that people communicate (social system) by e-mail (electronic system) through typing on a keyboard (mechanical system).

In order to take the effects of the acts by a system into account, we introduce the notion of *world*. More specifically, the effect of the interactions between the elements of a system, are considered to be state changes in the system's world. For example, the 'world' of a chess 'system' consists of a chess board, a set of pieces, and a set of laws that determine which states (i.e simultaneous placements of pieces on locations) are lawful. The chess system consists of the two players, who interact by moving pieces on the chess board. Note that for social systems, the system's world is split into the coordination world and the production world (Cf. ψ-theory [TEEM-5]).

The *functional* system notion is concerned with the function, and the (other) affordances that a system offers to a group of stakeholders (subjects). As will be clarified in the next section, this notion is identical to the notion of black-box model (of the system). To illustrate the variety of functions/affordances an enterprise may offer (to various stakeholders), have a look at these examples:

earning income: (employee, basic economic needs), (enterprise, employment offering)
meaningful work: (employee, development needs), (enterprise, interesting work)
making money: (shareholder, wealth), (enterprise, share value)
employment: (society, prosperity), (enterprise, jobs)
tax income: (government, money), (enterprise, profit)
service provisioning: (customer, service needs), (enterprise, products).

In the last example, we deliberately used the word "service" instead of "product". The products that an enterprise's organisation delivers to its customers are taken by these customers as the business services they have asked for. The word "product" refers to the construction perspective on things, which is the primary perspective of the producer. The word "service" refers to the function perspective on things, which is the primary perspective of the consumer. We prefer to use the word "service" for denoting affordances that are brought about in a transaction between a consumer (initiator) and a producer (executor), as discussed in the ψ-theory [TEEM-5].

5. Models

We adopt the philosophically well founded notion of model from Leo Apostel (1960):

Any subject using a system A that is neither directly nor indirectly interacting with a system B, to obtain information about the system B, is using A as a model for B.

So, the notion of model is a role notion; something is not a model per se, in some absolute sense, but it may be used as a model. Combining this notion of model with the semiotic triangle from the ϕ-theory [TEEM-4] yields the so-called model triangle, as exhibited in Figure 5.1. In this model triangle, the notion of system is the colloquial broad one; it does include fro example Mendeleev's periodic system of elements. As an example for illustration, let us take one of the pyramids of Giza. Clearly, it is a concrete system. Its *conceptualisation* is the geometric notion of pyramid, which is a conceptual model of the concrete pyramid. This conceptual system may be *converted* to the algebraic notion of pyramid. Next, one may make a *realisation* of this conceptual system of which the sizes are 1/100 of the sizes of the pyramid of Giza. Then one could use this concrete system as an *imitation* (scale model) of the 'real' pyramid. The conceptual pyramid can be *formulated* in a drawing on paper. This is a symbolic system that can be *transformed* into a more formalised drawing. This symbolic system can be *interpreted* (by an architect) as a (conceptual) pyramid.

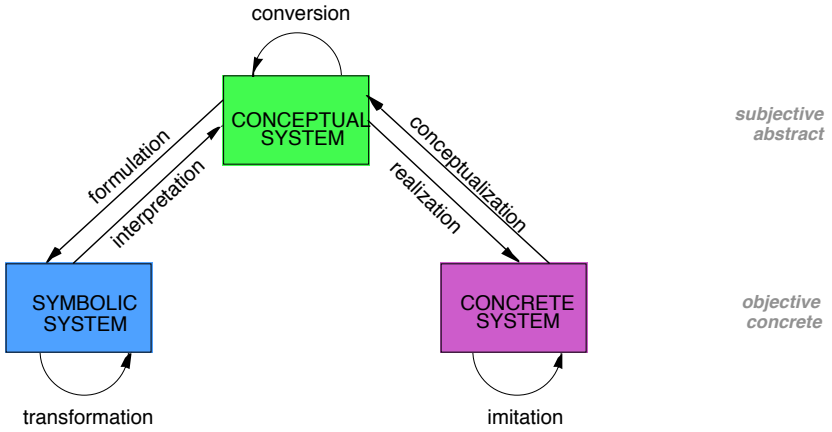

Figure 5.1 Model triangle

Corresponding with the distinction between the construction perspective and the function perspective on concrete systems, we distinguish between two kinds of conceptual models: white-box models and black-box models.

A *white-box model* is a conceptualisation of a concrete system that an observer may have in his/her mind when taking the construction perspective on it. Figure 3.1 exhibits the white-box model of a car, as well as its constructional decomposition.

A *black-box model* is a conceptualisation of a concrete system that an observer may create in his/her mind when taking the function perspective on it. Figure 3.2 exhibits a black-box model of a car, as well as a possible functional decomposition. It could be very useful for a driving instructor to explain to a new pupil what a car basically is (for drivers). With reference to Figure 2.1 (and Figure 5.1), black-box models are conceptualisations of affordances. They are subjective, and dependent on the purposes of the subject. Therefore, the notion of black-box model is said to be identical to the functional system notion.

The discussion above clarifies at once why disputes about functional models can be endless. Moreover, such disputes will rarely lead to agreement, because these models are functional, and functional models are inherently subjective. Examples of functional modelling approaches (in the field of enterprise engineering) are Forrester's System Dynamics Models, SADT and IDEF0 activity models, Data Flow Diagrams, and (to a large extent) Archimate models.

6. Value and experience

Pertinent to the usage of affordances, is the concept of value, which originates from praxeology, notably decision theory. We will briefly discuss it, without striving for completeness. Clearly, value is not an inherent property of a thing. Consequently, one cannot say that a thing has a particular value, like it has a particular weight. One can only say that a thing has a particular value to someone, or at best to a group of people. More specifically, we define *value* as a determination of the degree in which an affordance satisfies a purpose of a subject. The subject could express the value he/she assigns to an affordance as an attribute of the affordance, by which value becomes measurable, most probably only on an ordinal scale. For example, the affordance 'sit-on-able' that is offered by an armchair can be more attractive to someone than the one that is offered by a tree-stump. He or she could express that in assigning to the armchair a higher affordance value than to the tree-stump.

In Section 2 we introduced the concept of *experience* as the purely subjective mental sensation that an affordance evokes. It seems that the concept of value, as introduced above, offers a means to express experience in a measurable way. However, because experience is so inherently subjective, it may be too speculative to assume that it may be measurable. Anyhow, reflecting on the discussion about affordances, the hypothesis that subjects do not primarily look for affordances in order to satisfy their purposes, but that they primarily strive to achieve high level experiences, seems plausible.

In contrast to value, the *price* of a thing (product or service) must be considered as something objective, so as a property of the thing, regardless whether this price is the outcome of a calculation or someone's 'subjective' determination. For example, my decision to buy or rent something is basically the balancing of its price against the value that I assign to the affordance(s) it offers me.

7. Modelling enterprises

Let us try now to apply the theoretical insights that are explicated above, illustrated with the car as the example system kind, to the kind of systems that we commonly refer to as enterprises. Clearly, the first distinction we must make is the one between the construction of a particular enterprise and its possible functions to various stakeholders, like we did for cars in section 3. In accordance with [Dietz 2006] we will use the term "organisation" when referring to the construction perspective on enterprises, and the term "business" when referring to the function(s) the enterprise offers to its customers. (Note: although many more useful functions may be discerned, we only discuss this business perspective). Figure 7.1 exhibits a quite common functional decomposition of an enterprise from the perspective of the customers, so a decomposition of its business. It resembles the pictures of enterprises that one may find in textbooks on enterprises or organisations.

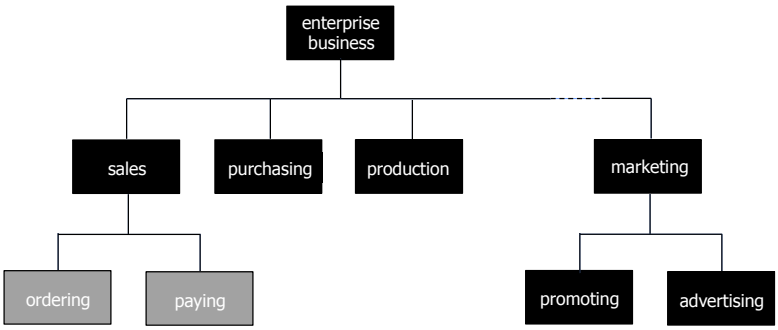

Figure 7.1 Decomposition of the business of an enterprise

For the depth of the decomposition, the same criterion holds as we have applied in Section 3 to cars, namely the being able to operate the 'leaf' functions, like starting and braking. Only two components are considered to be 'leaves', i.e. to be operated directly through some user-system interface. So, we envision that there is a transaction kind that provides the service of ordering (initiated by a customer and executed by some order completer), and a transaction kind that provides the service of paying (initiated by the order completer and executed by the customer). We consider the other ones (the black-boxes) as yet to be decomposed.

Regarding the construction of organisations, an interesting question for enterprise engineers is whether it is possible to conceive an organisation in the way we conceive the construction of a car (Cf. Figure 3.1). Put differently, is it possible to conceive of organisational buildings blocks, such that one can build an organisation by assembling such building blocks into a whole that one then rightfully might call the organisation of the enterprise? It seems that this is possible if we rely on the ψ-theory [TEEM-5]. This theory provides us with a generic partitioning of every organisation in its B-, I-, and D-organisation. We add to it the P-organisation (P from Physical) as was found necessary to add in [Jong 2013]. The P-organisation provides services to the D-organisation, like the D-organisation does to the I-organisation, and the I-organisation to the B-organisation. This insight leads to the generic partitioning of organisations that is exhibited in Figure 7.2. Under every partial organisation, its different sorts of production are mentioned. Only the production in the P-organisation is truly physical, i.e. technology dependent. So, a file in the P-organisation of an enterprise is a paper file or an optical file on disk, or a stream of electromagnetic bits in some conducting matter. As we also know from the ψ-theory [TEEM-5], these aspect organisations consists of the same kind of building block (Cf. Figure 2.4 in TEEM-5).

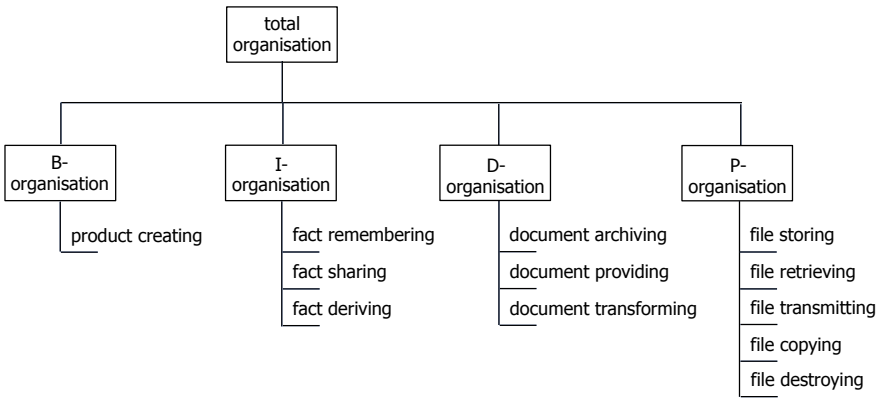

Figure 7.2 Generic partitioning of the organisation of an enterprise

Compared to the constructional decomposition of a car (Figure 3.1) one must consider the partitioning of an organisation as a generic constructional structure of all car components. For cars, this doesn't exist, for organisations it does[6]. This fortunate position provides us with the means to design and build (the organisations of) enterprises in a systematic way; it is elaborated in the β-theory [TEEM-8].

Summarising, every (sub) organisation can be partitioned into four partial organisations:

- B-organisation (B from business); the actors in the B-organisation bring about the business services (function) of the organisation. This is represented by "product creating" in Figure 7.2.
- I-organisation (I from Information); supports the actors in the B-organisation with informational services. Three sorts of informational products are distinguished: remembering facts by order of B-actors, deriving 'new' facts from remembered facts, and sharing (remembered or derived) facts with B-actors.
- D-organisation (D from Document and Data); supports the actors in the I-organisation with documental services. Three sorts of documental products are distinguished: archiving documents (containing facts from the B-organisation) by order of I-actors, transforming documents (like translating), and providing documents to I-actors on their request.
- P-organisation (P from Physical); supports the actors in the D-organisation with physical services; the production in the P-organisation is technology specific; e.g. ICT. Five sorts of physical products are distinguished: storing files (representing documents) by order of D-actors, retrieving files, transmitting them from one location to the other, copying files (making duplicates of the same document), and destroying files, all by order of D-actors.

[6] There is something similar to the ψ-theory for mechanical systems, known as finite-element-theory, finite-element-method or finite-element-analysis.

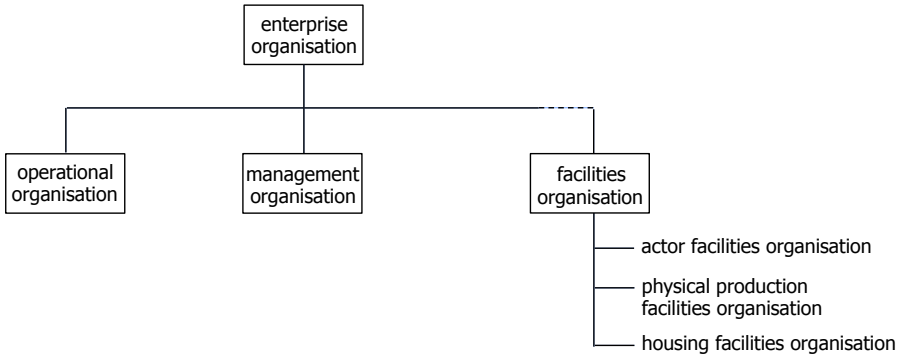

Figure 7.3 Generic decomposition of the organisation of an enterprise

Next to the partitioning of an organisation, there is the decomposition of an organisation in more enterprise specific sub organisations, like the decomposition of a car is a specific decomposition of a (not fully but largely) mechanical system. It appears that this decomposition is also rather generic, at least at the highest levels, as shown in Figure 7.3. The decomposition must be conceived as something that is orthogonal to the partitioning in Figure 7.2. So, each of the sub organisations in Figure 7.3 can be partitioned according to the structure in Figure 7.2. Examples of tasks in the actor facilities organisation are: employee recruitment, training and rewarding, as well as robot (artefact) procurement and maintenance. Examples of tasks in the physical production facilities organisation are: machine procurement and maintenance, tools procurement and maintenance, material supply, energy supply. Examples of tasks in the housing facilities organisation are: procurement and maintenance of buildings, working places, meeting places, toilettes, etc.

The further decomposition of the operational organisation and the management organisation will mostly be enterprise or branch specific. As an example of the decomposition of the operational organisation of an enterprise, the construction of the B-organisation of the Rent-A-Car case [Perinforma 2013] is shown in Figure 7.4.

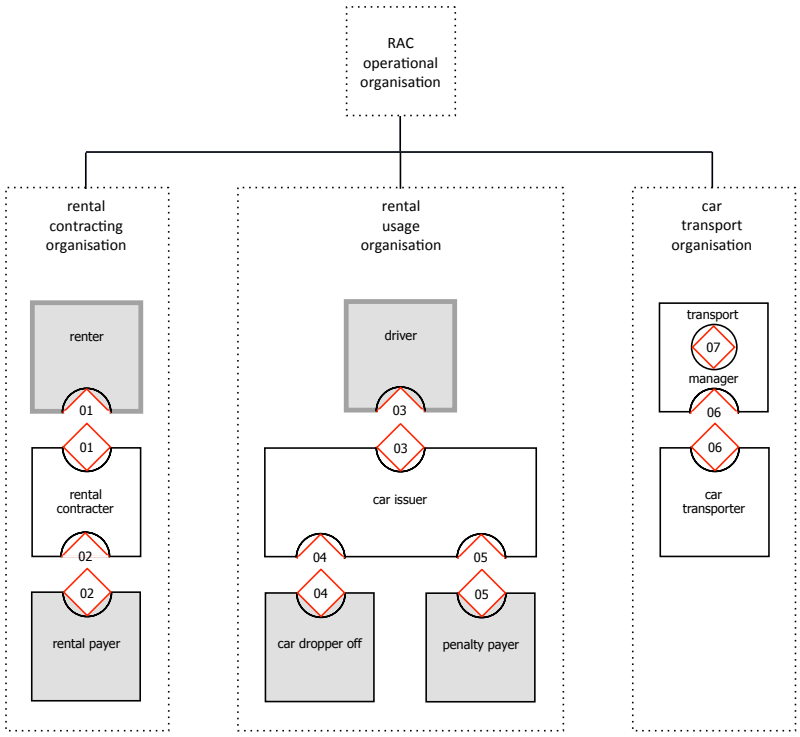

Figure 7.4 Decomposition of the B-organisation of Rent-A-Car

Contrary to the way the OCD (Organisation Construction Diagram) was drawn in (Perinforma 2013), Figure 7.4 exhibits more clearly the tree structure of the three distinct business processes. In order to make the organisation operational, the building blocks must be 'clicked together'. The three processes seem to be disconnected, but that is not true. They are connected, however not through B-organisation transactions, but through I-organisation and D-organisation transaction kinds.

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List of TEEMs (Theories in Enterprise Engineering Memorandum)

TEEM-1: the ω-theory (OMEGA: Organisation's Management, Engineering & Governance Appreciation)

TEEM-2: the τ-theory (TAO: Teleology Across Ontology)

TEEM-3: the δ-theory (DELTA: Discrete Event in Linear Time Automaton)

TEEM-4: the ϕ-theory (FI: Fact and Information)

TEEM-5: the ψ-theory (PSI: Performance in Social Interaction)

TEEM-6: the σ-theory (SIGMA: Socially Inspired Governance and Management Advancement)

TEEM-7: the π-theory (PI: Performance in Interaction)

TEEM-8: the β-theory (BETA: Binding Essence to Technology under Architecture)

TEEM-9: the ν-theory (NU: Normalised Unification)