

**THE WORLD KNOWLEDGE WORDBOOK**

**and**

***The Meaningful World Wide Web***

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**EIS ENCYCLOPEDIA INTELLIGENT SYSTEMS LTD  
2005**

**THE LANGUAGE OF THE WORLD OF THINGS**

**THE CONTENT OF DEFINITIONS**

**THE ENCYCLOPEDIC KNOWLEDGE REFERENCE**

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**File Attachment:** Encyclopedia Britannica's Categories

**File Attachment:** 'STANDARD ONTOLOGY FOR MACHINES AND PEOPLE OR HOW TO BUILD A VIRTUAL ARISTOTLE'

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# THE LANGUAGE OF THE WORLD OF THINGS

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'All men by nature desire to know'

Aristotle

'He who does not know what the world is does not know where he is'

Marcus Aurelius

## Introduction

In the great enterprise of knowing and learning, one of the hardest tasks has been to determine the body of words in terms of which the language can effectively represent reality, express the mental experiences, and communicate information. Having such an all-embracing system of words to which one can refer for standard definitions of significant terms has always been considered as the most sought-after resource. But the main barrier to achieve the encyclopedic inventory of senses consisted in the assumption to view the entire macrocosm of knowledge as a single universe of discourse. That is, the whole undertaking demanded the universal schema capable to represent everything in a single hierarchical order of things, from fundamental, domain-independent classes to domain-specific, particular individuals, as in:

Thing, Entity, or Being (Everything, the World, or the Universe) → Anything → Something → Nothing (Nonentity, Nonexistence, Nonbeing)

So to benefit the uniform catalog of things looks possible only if our accounting of reality affords an exhaustive categorization of things, in every area of the universe, in all spheres of existence, at all grades and levels of being. As a great reward, within the unifying scheme of world entities, the major knowledge and language resources (encyclopedias, lexical taxonomies, semantic thesauri, web directories, search engine subject indices, upper ontologies, domain terminologies, languages, and nomenclatures) will become integrated in a single consistent system of terms. In order to approach the ideal, the encyclopedic source of meanings should be constructed as addressing all significant information about natural, mental, social, cultural, and virtual domains. To meet this heavy requirement, the universal directory of all the basic names of world things is proposed in the form of **the world knowledge wordbook** (WKW). In its substance, such a general nomenclature, terminology, or language of things is nothing but the digest (epitome, compendium, outline, abstract, or synopsis) of human learning covering all key domains of reality, subject areas, and fields of study.

Giving the systematized description of general entities, with kinds and instances, by defining their language, terms, names, and expressions, the WKW appears as an essential tool in transforming the World Wide Web into **the Meaningful Web** of words and constructions, an embodiment of human knowledge. Besides, providing the common language of things, the WKW can be viewed as a complement to the ISO international standards supplying the common reference frame and technological language for particular

things: materials, products, technologies, processes, and services <<http://www.iso.org/iso/en/aboutiso/introduction/index.html#two>>.

Being drawn on the unified model of reality and aimed toward unity of standards, the entire content is divided into two parts:

1. the **encyclopedic knowledge reference** designed as a source of essential knowledge covering the main points of any significant subject area, domain of interest, or field;
2. the **world catalogue of general things** such as substances and objects, states, changes and processes, and relationships, with the standard formulas of defining their classes, properties, and instances.

With such scope and range, the encyclopedic knowledge resource is addressing people of different status and rank, social position and role: students and scientists, programmers and engineers, intellectuals and laymen, politicians and artists, presidents and housewives, managers and workers, technologists and theoreticians. Its audience includes all who desire to understand the world and its worlds of words from a single outlook of reality, in one standard comprehensive way, within the unifying schema of things. While having at his fingertips the universal directory of meanings and definitions, the user can perform a meaningful searching for specific information on requested words, phrases, subjects or topics, occurring in the wider context of web pages. The existing possibility of enlarging the basic content and meaning of entity terms with specific facts and information makes the WKW one of the core instruments in building the meaning-based knowledge Web.

## The Fundamentals of the Book of Meanings

As the universal listing of terms, the WKW by its design requires the content frame of all-comprehensive generality, where all the things in the world, all what around and within us, are nothing but differences, determinations, forms, and modes of entity. Particularly, it asks for the basal framework acting as a standard model of the primary things making up all reality, where the major meanings come from several basic differences of entity: **the property of being a substance, state, change, or relationship**. As far as all words (or terms) are the signs of things, just as things are the meanings of words, the cardinal classes of words ought to be as many as the primal classes of entities (for rationales refer to Standard Ontology for Machines and People):

- **substance (objects, material and non-material);**
- **state (conditions, qualities, quantities, and attributes);**
- **change (actions, activities, processes, and events);**
- **relationship (associations, connections, ties, bonds, and links)**

Basing on the pillars of reality, under the capital headword of entity, the whole body of words will be then exhaustively carved up into four lexical domains:

- substantive terms of objects, agents, persons, and mental objects;
- state terms of conditions, qualities and quantities;
- action words of changes, processes, activities, occurrences, and events;
- associative terms of relationships

So the human wordage can be organized as a single hierarchy of words where the term of entity has the richest extension and reference supported by few general classes of words, infinitely many individual terms, together with all composite expressions thereof

constructible.

Implicitly or explicitly, the assumption of a single hierarchy underlies all profound reference works: encyclopedias (as Encyclopedia Britannica, the Outline of Knowledge), thesauri (as Roget's thesaurus), large lexical databases (as the Princeton WordNet 2.1), and general taxonomies (from Yahoo hierarchy to upper ontologies and web ontology languages). For example, the largest human knowledge reference, Encyclopedia Britannica, tends to organize the world's collective knowledge as a single universe of discourse following the natural order of particular things: substance (matter and energy, from atoms to the universe), Earth (Globe), life, human life, human society, and culture (art, technology, religion, the history of mankind, and the branches of knowledge). Roget's thesaurus splits up all English lexicon into several classes of words as expressing the hierarchy of basic categories: abstract relations (existence or being or entity, relation, quantity, order, number, time, change, and causation); space; matter; the intellectual faculties; the voluntary powers; the sentiment and moral powers. Discarding the principle of multiple hierarchies, the on-line lexical database WordNet 2.1 also puts *entity* first in the hierarchy of words (nouns) having as its heterogeneous subordinates:

- ✓ the realms of physical entity (thing, object, causal agent, substance or matter, and physical process);
- ✓ the realms of abstract entity or abstraction (psychological feature, attribute, group, relation, communication, quantity, otherworld, and set)

Still the above classifications reflect the confusing tendency to divide everything into concrete entities (physical objects, agents, or processes, completed sometimes with groups, collections of concrete things) and abstractions (classes, states, qualities, quantities, and relations). Such widely practiced supposal has been the principal obstacle in describing the universe of learning as a whole, a totality, as the microcosm reflecting the macrocosm.

As a matter of fact, according to the unifying representation of things, there is no dividing line between individual things and abstractions, as there is no any irreconcilable antagonism between the whole class of thing and its kinds and individuals, or inherent duality between the state taken in general and its specific cases. All what we need is to regard the abstract entities as the ontological classes involving general entities expressed by general terms and common names. Then the collection of all human words can be arranged in a hierarchical order of terms with increasing top-bottom specificity, where a general term will denote the whole class of thing instantiated as individual members or as groups and collectives of concrete things. In another words, there are general, domain-independent categories, classes, generalities, wholes, masses, genera, essences, universals, types, and properties exemplified and instantiated as sensible, domain-specific individuals, particulars, cases, instances, examples, illustrations, representatives, tokens, and units, reciprocally interrelated by instantiation (differentiation, specialization) and generalization (integration, abstraction). This implies that the natural language body of words has best modeled after a comprehensive hierarchy of meanings, where ontological terms or abstractions occupy the highest level, while collectives make a lower rank, and individual names constitute the ground floor position. Then an abstract word will involve three senses, cardinal, subordinate, and particular:

- *universally*, the property of being a whole or a class, the substance, materials or activities taken in a general sense (like the capitalist system as a whole, or the capital in general as all material, non-material, and human resources, all

- sources of wealth and production);
- *collectively*, all the instances of the property (all the possible examples and instances of capitalism, or capital as a class opposed to labor);
- *concretely*, an instance of the property (Russian capitalism, or the capital in the form of material assets and money capital owned by an enterprise or one person )

## The Guidelines and Standard Formulas for Meanings

Basing on the above fundamental assumptions, we can create a digest of general things, with the definitions of their classes, properties and relationships, indispensable for true representation and understanding of the universe, its any part, portion, fragment, or domain of knowledge. So, being a complement to traditional encyclopedic repositories of facts, the WKW is constructed as the whole collection of substantial meanings. That is, in WKW, as the consistent collection of definitions of entities, properties and relationships, each term signifying an entity is described in the most comprehensive way. That is, by showing:

- its primary meaning, its substantial content, denotative, explicit, referential, extensional, or explicit sense, the reference class of entities to which the term refers completed with its listing of higher classes and lower kinds;
- its connotative, suggestive, intensional, implicative, or inferential sense as its context, all features and characteristics of the entity, the collection of properties or attributes and relationships distinguishing it from all other entities

According to the ontological class-property formulation, each definition of a term will show what the term signifies by way of identifying the class of entities it applies and the set of properties (states, actions, and relationships) associated with. Such general rule of meanings will be expressed by the identical equation stating the relations of sufficiency and necessity  $\Leftrightarrow$  between its both sides:

**Specific entity term (of substances, states, changes, or relations)  $\Leftrightarrow$  the generic term (the general class or category of the entity) + the property differences (relationships, actions, states, objects)**

Generalizing all notions of definition, lexical, intensional, extensional, and theoretical, the signification formula has its rules as well:

- ❖ The constituents parts of definition, class, property, or attribute, are to be found within the classes of ontological terms;
- ❖ The converse formulation identifies some essential property as a distinguishing characteristics or differentia from the whole set of properties;
- ❖ The property differentia is never of the same kind and nature with the entity defined;
- ❖ The defined term is necessary and sufficient for the defining phrase;
- ❖ The number of different word senses equals to the number of distinguishing characteristics

On the whole, then there are four types of definitions, or four ways to state the meaning of words. First, for substantive entities:

**An entity term (of substances)  $\Leftrightarrow$  the generic term (the general category of the entity) + the property differences (of relationships, actions, states)**

The second one is for states, conditions, qualities, and quantities:



**An entity term (of states) ⇔ the generic term (the general category of the entity) + the property differences (of relationships, actions, objects)**

The third one is for changes, actions, activities, processes, events, and occurrences:

**An entity term (of changes) ⇔ the generic term (the general category of the entity) + the property differences (of relationships, actions, states, objects)**

And the fourth one is for all sorts of relationships, associations, connections, and bonds:

**An entity term (of relations) ⇔ the generic term (the general category of the entity) + the property differences (of actions, states, objects)**

So a true definition is one which identifies the next generic term as well as shows the property which distinguishes the thing defined from everything else, that is, an essential, intrinsic, or permanent property instead of some non-essential, accidental, and temporary property.

If proceeding with the example of capitalism, we can find a great number of its definitions marked sometimes by rather irreconcilable discrepancies <[http://en.wikipedia.org/wiki/Definitions\\_of\\_capitalism](http://en.wikipedia.org/wiki/Definitions_of_capitalism)>. Generally, there is a small disagreement about its generic substantive class, 'a system of economy' or 'economic and political system' or 'a fabric of society'. A collision of definitions comes from what we are thinking to be as its most characteristic property from a given set of attributes. This all makes a long listing of names and phrases: {class hierarchy, individualism, free enterprise, materialism, greed, profit, property, legal entity, property rights, the division of labor, free market, competition, economic growth, instability (inflation and recession), boom-and-bust cycle, wealth, capital, labor, capital concentration, finance internalization, globalization, real politic, government interference, welfare system, subsidy, entitlement payment, health benefit; taxes, environmental damage, inequity, exploitation, child labor, black market, unequal distribution, poverty, venality, corporate fraud, corruption, criminality, prostitution, war, immorality}. It is evident that the most adequate definition ought to correspond to the class-property formulation of symmetric equivalency between the defined term and the defining phrases. If 'capitalism is a system of society marked by private ownership of capital for private profit', then its converse formulation must hold as well: 'a system of society marked by private ownership of capital for private profit is capitalism', which is wrong. As a matter of fact, there are several types of property in the social structure such as corporate property by all sorts of legal fictions, corporations, trust, or funds; public property owned by a government; common property; employee property; church property, as well as private property. So the more adequate definition reads as follows: 'capitalism is a system of society marked by ownership of capital for private profit'. Guided by the meaning expression for the domain of objects, one can distinguish several characteristic properties applying to the social structure and its members: the individual *states* of individuality, self-interest, and insatiable greed for more material wealth and the social *state* of knowledge and technology; the economic *processes* of investments, production, distribution, consumption, competition, pricing, and growth; the social *relationships* of class hierarchy, ownership, property rights, or opposition of capital to labor. If to regard the social relationship of ownership or possession or property rights as the essential property, then its kinds or rather the type of property having the greater proportionate size in the whole range of property will determine the type of capitalist society.

The illustration shows that referring to **the world catalogue of relations** the reader can find out all the basic categories of ownership or possession such as private possession by persons, corporate property by legal entities, public property, spirituality, commonage, or criminal possession. Accordingly, the types of capitalism may be as different as: market



capitalism, free or private enterprise economy, corporate capitalism, state capitalism, mixed economy, crony capitalism, church capitalism, non-market managed economy, or criminal capitalism. From the meaningful analysis of words it follows that all modern Eastern and Western economies have only some degree of capitalism; for its conceptual model fully realized in neither capitalist state. The above (signification analysis of verbal senses) can be now performed by any reader of the WKW, thus shedding light on the quite misleading terminology of capitalism by its opponents and proponents. Crucially, the WKW as **the world content digest** will allow the most unbiased and unprejudiced definitions and classification of things according to their nature, essential properties and features.

Another significant point is that the meaning expressions and formulas hold not only for names but also for verbs (or predicates) as well as adjectives and prepositions. For the case of the names of things, we have to see the distinction between general names referring to the whole classes of things (*how much*); collective names of groups; and specific names denoting the classes of thing as a whole, a class of thing, or their instances and examples (*how many*). Putting the same in other words, giving or interpreting the definition, we have to differentiate three species of entity names:

- ✓ uncountable names of substances and materials as well as states, qualities and quantities, actions, activities, and relationships, all taken in most general senses (matter, water, smoke, earth, fabric, material, equality, egalite, knowledge, education, art, science, content, business, trade, ownership, communication);
- ✓ collective names of the collections of concrete things, regarded as whole (singular) entities or referring to the separate members of the collections (groups, aggregation, mankind, kingdom, society, community, people, race, citizenry, multitude, population, system, series, legal entity, association);
- ✓ countable names of the classes of physical objects, living substances and individual parts of some whole (ship, car, airplane, train; plants, animals, persons; portion, element, part, piece, article, item, atom, drop);

For the case of mass terms, a form of definition for general entities will be formulated as:

*the whole class of thing (a mass noun referring to an entity in general) ⇔ a higher class of the thing (a genus) + a convertible property (differentia, distinction, dissimilarity, and diversity)*

The examples of mass names are: 'substance is a kind of entity which constitutes particular objects, or 'state is a class of entity existing as qualities', or 'change is a kind of entity occurring as particular events'; 'matter is a substance having mass and occupying space', or 'trade is a commerce of goods and services', etc.

For the collective terms of classes of special entities, a formula of definition will be modified as:

*a collection of things as a unit (a collective name referring to a class of entities collectively) ⇔ a higher class of the thing (a genus) + an essential property (differentia or nature or characteristic)*

The examples of collective names are: 'group is a collection of entities considered as a whole', or 'humankind is the collection of all humans inhabiting the earth', or 'race is people belonging to the same genetic stock', 'corporation (government, company, bank, estate, party, partnership, trust, unit, or association) is a legal entity having legal rights and duties', etc

At last, for the count terms of classes of special entities, a form of definition is:

*a class of thing as a whole (a count noun referring to a class as a whole) ⇔ a higher class of the thing (a genus) + an essential property (differentia or nature or characteristic)*

The examples of count names are: 'an entity is something having a distinct existence', or 'an object is a substance existing as a separate unit', or 'an atom is the unit of matter with chemical properties', 'a chemical element is a substance chemically indivisible'; or 'an instance is the entity existing as an individual', or 'a case is a state of some particular things'; or 'an event is a change occurring at a certain place and time', etc.

Entities are expressed not only by names but also by verbs, a class of words involving existence, substance, state, action, and relationship and so divided into the verbs of being, the verbs of substances, the verbs of states, the verbs of changes, and the verbs of relationships. All verbs then, reflecting the hierarchical order of entity names, come in an hierarchy of verbal meanings, topped by the term 'to be' or to 'exist' and divided into four broad verbal categories of substances, states, actions, and associations, or relations, as in:

- universal verbs, or verbal names, indicating entity or existence such as *to be* and *to cause to be*, or *become* and *to have* and *to cause to have*, all meaning 'to have the property of being', or 'to have an existence', or 'to have reality';
- substantive verbs relating chiefly to substances and objects, all meaning 'to have the being of substance, material or conceptual', with the generic verbs *to exist* or *to continue to exist*, *to endure*, *to persevere*, or *to abide* (objects are said to exist and endure, but changes happen);
- stative verbs symbolizing a state of being, qualities and quantities, all meaning 'to have the being of state, quality, or quantity';
- action verbs expressing all sorts of changes, activities, processes, and occurrences, with the generic verb *to change* and *to cause to change* and *to make change*, or alter, modify, all meaning 'to have the being of change and becoming';
- relational verbs indicating different sorts of relationships, with the generic verb *to relate*, all meaning 'to have the being of relationship'

Accordingly, the basic functions of the general term *to be* are to predicate the properties of the subject: its existence or not-existence or declaring its property to be an object, a state, an action, or a relationship. What is most important, the standard meaning expressions for entity terms can be applied to verbs without any essential modifications; for the infinitive as the uninflected form of the verb when put in the signification expressions will function just as a verbal name, only with the exception to take objects and adverbial modifiers, all to specify the type of the verb. Like the names of things, a class of verbs fits to rigid patterns of definitions; namely, each specific verb is defined by two standard ways, general and specific. The first one implies the definition by means of most comprehensive words, the verbal names *to be* and *to have*, as in the common rule of verbal definitions:

**Verbs (substantive, stative, action, and relative) ⇔ the universal terms (*to have, to be*) + the differences (the mode of relationship, action, state, substance)**

That this pattern is rigid, standard, and has general commonality may be supported by the typical illustrations: 'to exist is *to have* an existence of a certain kind'; 'to endure is *to have* the property of substance and *to be* for a long period of time'; 'to know is *to be* aware and *to have* knowledge of something'; 'to change is *to have* a change and *to become* different in nature'; 'to alter or vary is *to change*, or *become* different in some special way', 'to alter, or modify is *to cause to change*'; 'to relate is *to be* in a relationship with and *to have* a

relationship to and *to be relevant to*. The meaning of verbs is spreading downward from its central source, changing in accordance with the differences and specificity of the entities to be indicated, such as the manner of changing and doing or the sort of relationships between things. Accordingly, the general verbal terms or predicates are employed in various senses, like the term 'to have' with reference to substantive parts, something concrete or abstract, to state, condition, quality, or quantity, to change, or to some relation (ownership or possession). Or, like the term 'to relate' is used with reference to the part-whole relations ('compose', 'constitute', 'make up', 'classify', 'divide', 'categorize'), to comparison ('compare', 'identify', 'like', 'resemble', 'differ'), to opposition ('oppose', 'contrast', 'contradict'), to causality ('cause', 'do', 'make', 'determine', 'produce'), to spatial relationships ('displace', 'locate', 'direct'), or to temporal relationships ('last', 'time', 'endure', 'run').

The second standard verbal formulation implies the generic verb of the term and distinguished by the specific manner and form of the thing signified, as in:

**Verbs (of substance, state, change, or relation) ⇔ the generic term (the general class the verb) + the differences (relationships, actions, states, objects)**

Again, the commonality of the generic rule of verbal meanings is corroborated by a multitude of examples: 'to endure is to have an existence of a certain kind'; 'to understand is to know (or comprehend) the nature of things or meaning of words'; 'to think is to associate thoughts in a rational order', and the likes.

## The Goals of the World Content Vocabulary

The major objective of the WKW is to meet the deep intellectual desire of the human mind to comprehend the world, its parts, properties and order, within the simple knowledge framework, in a number of standard classes underlying the whole body of human language and learning. It is mostly aimed to show the way how all the meanings of words (the content of conceptions or the essence of things) can be integrated into one knowledge body as the catalogue of the world of things.

Two sorts of natural desire contend for the soul of human beings: the greed for material wealth and pleasure and the thirst for knowledge. Which desire will dominate is to determine not only human personality but the whole future of human race. The current social structure is established on the never satisfied human desire to acquire, possess and dominate: avarice, acquisitiveness, and possessiveness. Feeling unfulfilled and dissatisfied with where they are heading and what they are, people recognize the need for radically new social organization of their living as the upcoming knowledge information society. The sort of social system which is anticipated to arouse the desire to know about everything, stimulating an unrestricted intellectual curiosity, enkindling the spirit of inquiry, provoking the alertness of mind. By using most advanced information technologies, the knowledge society is widely expected to advance and boost the growth of power of intelligent thought and perception of the environment, external and internal, where the economic growth will be only a means and instrumentality.

The World Learning Wordbook is an effort to contribute to the grand cause of knowledge world by expanding the comprehension of human language and verbal intelligence and so increasing the breadth, largeness, and scope of human cognition and intellection. All higher cognitive processes such as search, knowing, thinking, decision making, problem solving, and language involve the profound understanding of verbal

meanings; for to see the deep meaning of words and their relationships is equal to having the substantial knowledge of things in the world. With this, the content of WKW is organized into two parts: Encyclopedic Knowledge Reference and the Catalogue of the World, or the Universal Directory of Entities. The Knowledge Reference is constructed as encyclopedic knowledge base dealing with the whole range of human knowledge as one totality and whole. Like general cyclopedias, it outlines various departments, fields, and domains of the world of knowledge and learning by giving their main meanings and summary formulations, to be extended by relevant details and specific facts.

Guided by the general standard model, the World Catalogue or Directory splits the universe into few primal classes of things, substances, states, changes, and relationships, making up the skeletal frame of multilevel reality represented as various areas of knowledge, fields of learning, or universes of discourse. Following this guidelines, the UNIVERSAL DIRECTORY OF ENTITY comes in four complementary parts:

- the substance catalog of objects;
- the state inventory of conditions, qualities and quantities;
- the full listing of changes, actions, activities, processes, and events;
- the comprehensive catalogue of relationships

To flesh out the world skeleton, the rich content of the largest online lexical reference, WordNet 2.1, was radically reclassified according to the real nature of things. Besides, the number of upper taxonomies and web ontologies are listed which can also be encompassed provided that the schemes used are essentially reconsidered.

Last but not least, unlike individual branches of knowledge, knowledge in general is a relative term. Since it is explained by reference to the object knowable, by that which is represented by knowledge, and which can range from Nothing to Something to Anything to Everything. As a result, all that the mind knows about things, their kinds, causes, properties, and relationships, is represented as cognitive abstractions: facts, concepts, ideas, models, schemas, laws, rules, theories, principles, and truths. Yet, again, the framing structure of the mental and cognitive content is determined by the standard schema of entities which furnishes the all-embracing and regular definition of complex abstractions as well.

## **WHY WE NEED THE UNIVERSAL DIRECTORY OF ENTITIES**

**What is More Senseless: the Search Engines (Ask Jeeves, Yahoo, Google) or Web Directories (Open Directory Project, Yahoo Directory, Google Directory)?  
and**

**HOW THE WORLD DIRECTORY RATIONALIZES THE WEB SEARCH AND WEB DIRECTORIES BROWSING**

The World Wide Web or the Web is an information space of software agents (servers, search engines, spiders, browsers, proxies, multimedia players) and resources (documents, graphics, sounds or audios, and videos or animation) identified by URIs (Uniform Resource Identifiers) and interconnected by hypertext links via the Internet protocols (as the HTTP - Hypertext Transfer Protocol). There are two ways to navigate the information space of internet sites providing textual documents, images, animation and sound: either by browsing the Web Directories organizing the Web content as a tree-like hierarchy of subjects or topics and subtopics or by means of the Search Engines (software programs) entering keywords or key phrases or a piece of text. As a result, the keyword searches, basic or advanced, retrieve all the occurrences of the keyword in the Web pages which are listed in the search engine index.

Despite such sophisticated tricks of trade as relevancy rankings, using statistics and heuristics, refined search, Boolean operators, and indexing metatags, both the subject-based queries and the keyword search engine enquiries are often ended up with a multitude of irrelevant information by bringing a jumble of useless URLs.

Considering this, the World Directory of Things as the Meaning Finder suggests the meaningful Web search by explaining the senses of search words or topics, namely, what sort of entity they represent and how the terms are featured in the common classification of semantic classes.

Representing the comprehensive hierarchy of entities and relationships, the Universal Directory of Meanings identifies all the basic words in natural language with their major meanings, semantic lines of descent, and offspring. Equipped with the meaning of the search word or the structure of the search subject or topic, the user will be capable to perform more relevant and coherent online quest for data, facts, or knowledge. Unlike most basic dictionaries and encyclopedias, using different ways and techniques of definitions for various sorts of words, the Universal Directory follows a single standard uniform formula for defining key words in a language, so that a primary meaning is enlarged and extended by such a variety of special meanings where the basic sense stays as the determining content and underlying element.

To browse the World Directory content of entities or relationships covering the references and meanings of key words in a language and navigate through the search results, the user can apply either the Find Dialog Box or the Search PDF Window. Pressing Ctrl + F (Windows) or Command + F (Mac OS) opens the Find toolbar. Pressing Shift + Ctrl + F or Shift + Command + F (Mac OS) opens the Search PDF Window (for more details, see Adobe Essentials, search for words in a PDF document). The whole procedure asks for the following simple steps. Click the button Search; set a search preference, basic search options or advanced search options while looking for central senses and primary meanings employ a case-sensitive and whole words only options. CAPITALIZE your search, write in capital letters, in case you are looking for general things and classes such as ENTITY, PROCESS, SUBSTANCE, OBJECT, CHANGE, ACTION, RELATION, MATTER, MATERIAL, CAUSE, BEING, EVENT, LIFE, ANIMAL, HUMAN, PERSON; or Science, Mathematics, Language, etc.



While searching on a topic or subject, the user gets as the results list the outlines or summary of the subject: its central meaning, basic concepts and principles, classification, content, and relationships with other subjects.

When looking for key words, the user will get their basic senses, semantic relatives and family lines traced as deep as from the universal term of entity, like

DATABASE < INFORMATION < MESSAGE < COMMUNICATION < SOCIAL RELATION  
< RELATION < ENTITY; or

SEARCH ENGINE < COMPUTER PROGRAMM < SOFTWARE PROGRAM < COMPUTER  
CODE < CODING SYSTEM < WRITING WRITTEN COMMUNICATION <  
COMMUNICATION < RELATION < ENTITY.

Under the headword DATABASE, its offspring or special types are enumerated in boldface or italic (**list, listing; electronic, on-line, computer database; subdata base**), all with their issues as well. Having constructed the most general meanings and senses, the user can proceed with searching the Internet putting into service the search engines such as Ask Jeeves, Yahoo, and Google or the web directories as Open Directory Project, Yahoo Directory, or Google Directory, which are inbuilt features of the World Directory. Additionally, for Encyclopedia Britannica's on-line subscribers, there is the opportunity to browse the rich electronic content by Britannica's categories and subjects.

## The EIS KNOWLEDGE STANDARDS Downloads



### HUMAN KNOWLEDGE OUTLINES (ALL-KNOWLEDGE DIGEST) cum THE CATALOG OF OBJECT CLASSES

[Provides a digest (sketch, general plan, skeleton, draft, or summary) of essential knowledge about the world by giving the key points, principal features and main divisions of the most significant knowledge areas, domains of interest, fields of learning, subjects of research, or topics of study. Supplying the substance of the whole of human knowledge, the Human Knowledge Plan is added with the complete Listing (or Catalog or Inventory or Directory) of object classes, as the objects of thought or perception. The object spectrum covers substances and conceptual objects, matter and materials, particles and atoms, molecules and compounds, liquids and gases; masses and individual parts, concrete objects, their groups and collections; animals, persons, and plants; artifacts and instrumentalities as well as beings, material and mythological. As a consequence, the OBJECT DIRECTORY of SUBSTANCES defines any thing that can be thought of existing as some sort of substance or object, whether an

imaginary or actual being, a spiritual or material object, a spatial or non-spatial being, a human or living being, a physical or real object, a material or conceptual object, a natural or cultural system. In the Comprehensive Hierarchy of Substances, neither class of substances nor set of objects naming some part of mentality or fragment of reality is out of place. Besides, the Knowledge Reference and the Object Schema are completed with the Web Directories of Google, Yahoo!, Open Directory Project (Standard Version), and Encyclopedia Britannica's Categories to allow the core content to be extended in any domain of interest or knowledge area. Being the source of substantial meanings, the project is targeted to stop or at least prevent a current nonsense Web search fast feeding the user with a jumble of results and a confused multitude of data types]

DON'T MISS THE UNIQUE OPPORTUNITY TO GET THE WORLD KNOWLEDGE SUMMARY WITH THE COMPLETE LIST OF THE OBJECT CLASSES IN THE UNIVERSE.

Size: 3.52 MB; Format: Adobe Acrobat 7.0 Document; Price: \$69.00

### WORLD DIRECTORY AND MEANINGFUL WEB

COMPLETES THE ESSENTIALS AND OUTLINES OF WORLD KNOWLEDGE WITH THE FULL INVENTORY OF ENTITIES AND RELATIONSHIPS DISTINGUISHED WITH THE STANDARD FORMULAS OF MEANINGS AND SENSES OF THINGS, OF THEIR CLASSES, PROPERTIES AND INSTANCES. THE ENTITY INVENTORY IS FINISHED UP WITH THE WEB DIRECTORIES OF GOOGLE, YAHOO!, OPEN DIRECTORY PROJECT, AND BRITANNICA'S CATEGORIES AND SUBJECTS SO THAT TO ALLOW FLESHING OUT THE CORE CONTENT.

THE UNIVERSAL DIRECTORY STRUCTURE IS A HIERARCHICAL FRAMEWORK OF ENTITY CLASSES EXISTING IN REALITY. AT THE TOP OF THE WORLD HIERARCHY IS THE ROOT TERM OF ENTITY APPLYING TO THINGS OF EVERY KIND AND TYPE AND UNDERLYING ALL OTHER WORDS CLASSIFYING AND DIVIDING THE UNIVERSE INTO SPECIFIC MEANINGS AND DIFFERENCES. SO THE WORLD SCHEMA COVERS COGNITIVE MODELS, COMPUTING SCHEMATA, AND LEXICAL RESOURCES: DOMAIN NAME SYSTEM HIERARCHY, SEMANTIC WEB ONTOLOGIES, XML SCHEMA, ACTIVE DIRECTORY SCHEMA OF OBJECT CLASSES, SEMANTIC NETWORKS, DATABASE MODELS, CONCEPTUAL GRAPHS, OBJECT-ORIENTED PROGRAMMING MODELS, PSYCHOLOGICAL SCHEMA OF COGNITIVE DEVELOPMENT AS WELL AS FOUNDATION ONTOLOGIES AND ONLINE LEXICAL DATABASES.

IN THE UNIVERSAL SCHEMA EACH ENTITY HAS A DISTINGUISHED NAME (A STRING OF CLASS NAMES FROM THE ROOT SUPERCLASS NAME TO ITS SPECIFIC DESIGNATION WITH THE MORE GENERIC NAMES TO THE RIGHT), A CANONICAL NAME (THE REVERSE ORDERING OF THE DISTINGUISHED NAME), AND A RELATIVE DISTINGUISHED NAME WITHOUT ANY REFERENCE TO ITS SUPERORDINARY OR SUBORDINARY SENSES. LIKE ANY SPECIFIC RESOURCE OR BIT OF CONTENT ON THE INTERNET AND THE OBJECTS IN THE WINDOWS ACTIVE DIRECTORY REPRESENTING PEOPLE, RESOURCES, AND SERVICES, EVERY ENTITY HAS A UNIVERSAL RESOURCE IDENTIFIER OR GLOBALLY UNIQUE IDENTIFIER DESCRIBING ITS SPECIFIC LOCATION IN THE WHOLE SYSTEM OF ENTITY NAMES. LIKE AS THE PATTERN OF PERSONAL NAMES PRACTICED IN THE SOVIET UNION, the given name (Azamat) + the father's name (Shamsuddin-ovich) + the family name of the kin (Abdoulla-ev OR 'Abd Allah "Slave of Allah" ), THE NAMES OF THINGS ARE ORGANIZED BY THE ONTOLOGICAL GENEALOGY OR RELATIONS OF DESCENT. Although human's names very rarely have any real meanings like the above designation which is without any genetic relation to its bearer having a Persian origin and culturally formed under the influence of the famous native, AVICENNA, one of the greatest philosopher-scientist. TO THE CONTRARY, UNLIKE HUMANS, THE REAL LINEAGE, GENEALOGY, AND FAMILY TREE OF ANY IMAGINARY OR MATERIAL THING, TAKEN AS A WHOLE CLASS OF ENTITIES OR AS A MEMBER OF A CLASS, CAN BE TRACED UP TO THE PRIMAL SUPERGENUS OF ENTITY.

FOR INSTANCE, THE MEANING LINE OF RIVER, TAKEN IN THE SENSE OF THE WHOLE CLASS OF RIVERS, IS TO BE ORDERED AS FOLLOWS: RIVER < WATERCOURSE, STREAM < WATER, BODY OF WATERS < FLUID < MATTER < PHYSICAL OBJECT < SUBSTANCE < ENTITY. THEN ITS ANY INDIVIDUAL MEMBER MAY BE IDENTIFIED OR DESCRIBED BY SOME CHARACTERISTIC FEATURE AS THE PLACE NAME, LIKE 'THE MOSCOW RIVER',

THE ENTITY DIRECTORY SHOWS THAT THE PEDIGREE LINES OF MEANINGS FOR ALL SORTS AND KINDS OF THINGS ARE BROUGHT FORTH BY FOUR GENERIC CLASSES OF ENTITY: SUBSTANCE, STATE, CHANGE AND RELATION. SO SOMEBODY MAKING INQUIRES OF THE NATURE OF MYTHS AND MYTHOLOGIES CAN FIND ALL THE POSSIBLE KINDS OF BEINGS AS WELL AS THE MANNER AND VARIETY OF RELATIONSHIPS WHICH CAN EXIST BETWEEN SUCH SUBSTANTIAL SUBSTANCES AS THE GODS, HUMAN BEINGS, ANIMALS AND PLANTS, WHICH MAY STAND IN A RELATIONSHIP OF OPPOSITION, UTTER DIVERSITY, SIMILARITY, IDENTITY, ANALOGY, COMBINATION, DESCENT. ON THE OTHER HAND, SOMEONE EXPLORING THE NATURE OF REALITIES CAN FIND ALL THE RANGE OF



PHYSICAL OBJECTS, MATERIAL PROPERTIES AND ACTUAL CHANGES LINKED UP WITH THE VARIETY OF REAL WORLD RELATIONSHIPS WHICH THE ENTITIES CAN HAVE TO EACH OTHER. AGAIN, FOR THOSE LOOKING INTO THE NATURE OF MENTAL REALITIES, IT CAN BECOME LUCID WHY THE COMPLEX PHENOMENON OF CONSCIOUSNESS IS DIFFERENTLY DEFINED EITHER AS AN OBJECT OR A STATE OR AN ACTIVITY OR AS A RELATIONSHIP.

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**File Attachment:** [The Web Directories and Catalogues: Open Directory Project, Yahoo! Directory, Google Directory](#)

**File Attachment:** [Encyclopedia Britannica Categories](#)

Don't miss your chance to own the most sought-after product: THE ENTIRE LIST OF ALL THE KEY ITEMS IN THE WORLD

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## WORLD DIRECTORY AND STANDARD ONTOLOGY

HARMONIZES THE OUTLINES OF HUMAN KNOWLEDGE WITH THE UNIVERSAL DIRECTORY OF MEANINGS AND THE WEB DIRECTORIES ADDED WITH THE BRITANNICA'S CATEGORIES, ALL SUPPORTED WITH THE STANDARD TEMPLATE OF ALL REALITY FIT BOTH FOR INTELLIGENT PERSONS AND REASONING APPLICATIONS.

THE SENSE FINDER PRODUCT COMPLETES THE ESSENTIALS OF WORLD KNOWLEDGE WITH THE FULL INVENTORY OF ENTITIES AND RELATIONSHIPS USING THE STANDARD FORMULAS OF MEANINGS AND SENSES. THE DETAILED LIST OF THE MAIN ITEMS IN EXISTENCE IS CONCLUDED WITH THE WEB DIRECTORIES OF GOOGLE, YAHOO!, OPEN DIRECTORY PROJECT, AND BRITANNICA'S CATEGORIES AND SUBJECTS SO THAT TO ALLOW EXTENDING THE CORE CONTENT IN ANY DOMAIN OF INTEREST.

THE UNIVERSAL DIRECTORY STRUCTURE RECORDS A HIERARCHICAL FRAMEWORK OF ENTITIES. AT THE TOP OF THE WORLD HIERARCHY IS THE ROOT CLASS OF ENTITY APPLYING TO THINGS OF EVERY KIND AND TYPE AND UNDERLYING ALL TERMS CLASSIFYING AND DIVIDING THE WORLD INTO SPECIFIC MEANINGS AND DIFFERENCES. SO THE WORLD SCHEMA COVERS ALL SORTS OF COGNITIVE MODELS, COMPUTING SCHEMATA, AND LEXICAL RESOURCES: DOMAIN NAME SYSTEM HIERARCHY, SEMANTIC WEB ONTOLOGIES, XML SCHEMA, ACTIVE DIRECTORY SCHEMA OF OBJECT CLASSES, SEMANTIC NETWORKS, DATABASE MODELS, CONCEPTUAL GRAPHS, OBJECT-ORIENTED PROGRAMMING MODELS, PSYCHOLOGICAL SCHEMA OF COGNITIVE DEVELOPMENT AS WELL AS FOUNDATION ONTOLOGIES AND ONLINE LEXICAL DATABASES. THE RICH SEMANTIC CONTENT IS TAKEN FROM THE LAST VERSION OF THE WORDNET 2.1, WHICH TAXONOMIC ANOMALITIES AND CLASSES WERE RENORMALIZED, RECLASSIFIED AND PROPERLY STREAMLINED. Namely, THE CONFUSING DIVISION OF ENTITY INTO TWO OPPOSED CLASSES, PHYSICAL ENTITIES (THING, OBJECT, CAUSE, MATTER, PROCESS) AND ABSTRACT ENTITIES (OR ABSTRACTIONS AS PSYCHOLOGICAL FEATURE, ATTRIBUTE, GROUP, RELATION, COMMUNICATION, QUANTITY, OTHERWORLD, AND SET), WAS ESSENTIALLY REVIEWED AS TO THE FACTUAL ORDER OF REALITIES, ONTOLOGICAL, PHYSICAL AND MENTAL.

REGARDING THE FACT THAT THE WORDNET LEXICAL RESOURCE IS WIDELY USED FOR BUILDING LARGE KNOWLEDGE BASES AND NATURAL LANGUAGE APPLICATIONS, THE UNIVERSAL DIRECTORY IS A MUST FOR THE RESEARCHERS AND DEVELOPERS WHO CONSIDER THIS LANGUAGE CLASSIFICATORY REFERENCE RICH IN

CONTENT BUT INCONSISTENT AND PERPLEXING IN ITS CATEGORIZATION.

THE LANGUAGE OF THE WORLD OF THINGS  
 THE CONTENT OF DEFINITIONS  
 THE ENCYCLOPEDIA KNOWLEDGE REFERENCE  
 THE CATALOG OF THE WORLD

- The WORLD CATALOG OF SUBSTANCES
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File Attachment: [The Web Directories and Catalogues: Open Directory Project, Yahoo! Directory, Google Directory](#)

File Attachment: [Encyclopedia Britannica Categories](#)

File Attachment: [‘STANDARD ONTOLOGY FOR MACHINES AND PEOPLE OR HOW TO BUILD A VIRTUAL ARISTOTLE’](#)

[Provides the general template of all reality; develops the standard model of the world as the Universal Schema of Entities; offers the rationales and fundamentals of a new class of encyclopedic intelligence, Virtual Aristotle Machine]

TARGETING A NEW GENERATION OF ENCYCLOPEDIA INTELLIGENCE APPLICATIONS, THE WORK MAKES A COMPREHENSIVE INQUIRY INTO THE NATURE OF ENTITY AND RELATION, REVEALING HOW THE WORLD IS ORGANIZED; WHAT KINDS OF THINGS CAN EXIST IN THE UNIVERSE AND WHAT SORTS OF RELATIONSHIPS THE THINGS MAY HAVE TO EACH OTHER; WHAT LEVELS AND DEGREES OF REALITY PERSONS AND MACHINES NEED TO DISTINGUISH; WHAT SORT OF KNOWLEDGE AND REASONING WE NEED TO CREATE VIABLE MEANINGFUL SYSTEMS; HOW TO TRANSFORM NATURAL LANGUAGE INTO A SINGLE COMMON LANGUAGE FOR COMPUTING AGENTS AND PERSONS; AND HOW TO BUILD A GENUINE ANSWERING SYSTEM.

**POSSESSING THE CONTENT, YOU WILL HAVE NOT ONLY THE INVENTORY OF ALL THE BASIC ITEMS IN EXISTENCE BUT ALSO WILL COME TO KNOW THAT THE WORLD MAKES SENSE AND THAT LET THE INTELLIGENT AGENTS MAKE SENSE OF IT.**

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### **STANDARD ONTOLOGY FOR MACHINES AND PEOPLE/ HOW TO BUILD A VIRTUAL ARISTOTLE**

[Provides the general template of all reality; develops the standard model of the world as the Universal Schema of Entities; establishes the knowledge standards; offers the rationales and fundamentals of a new class of encyclopedic intelligence, Virtual Aristotle Machine];

TARGETING A NEW GENERATION OF ENCYCLOPEDIA INTELLIGENCE APPLICATIONS, THE WORK MAKES A COMPREHENSIVE INQUIRY INTO THE NATURE OF ENTITY AND RELATION, REVEALING HOW THE WORLD IS ORGANIZED; WHAT KINDS OF THINGS CAN EXIST IN THE UNIVERSE AND WHAT SORTS OF RELATIONSHIPS THE THINGS MAY HAVE TO EACH OTHER; WHAT LEVELS AND DEGREES OF REALITY PERSONS AND MACHINES NEED TO DISTINGUISH; WHAT SORT OF KNOWLEDGE AND REASONING WE NEED TO CREATE VIABLE MEANINGFUL SYSTEMS; HOW TO TRANSFORM NATURAL LANGUAGE INTO A SINGLE COMMON LANGUAGE FOR COMPUTING AGENTS AND PERSONS.

**GET A COMPREHENSIVE THEORETICAL ACCOUNT OF THE WORLD IN WHICH YOU BELONG.**

Size: 1.87 MB; Format: Adobe Acrobat 7.0 Document; Price: \$53.00

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<<http://www.adobe.com/products/acrobat/acrrsystemreqs.html>>

**Windows**

Intel® Pentium® processor

Microsoft® Windows 2000 with Service Pack 2, Windows XP Professional or Home Edition, or Windows XP Tablet PC Edition

128MB of RAM

Up to 90MB of available hard-disk space

Microsoft Internet Explorer 5.5 or higher

**Macintosh**

PowerPC® G3 processor

Mac OS X v.10.2.8 or 10.3

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**Linux**

32 bit Intel Pentium processor

Red Hat Linux AS 3.0 2.4.21, 4.0 2.6, Red Hat Linux ES 3.0 2.4.21, 4.0 2.6, Red Hat Linux WS 3.02.4.21, 4.0 2.6, Red Hat Linux Desktop, Red Hat Linux 9.0 2.4.20-6, SUSE Enterprise Server 9X 2.6, SUSE Professional 9.2 2.6.4, Novell Linux Desktop (9.x) 2.6.4

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