

## Polyscopic Modeling Definition

Dino Karabeg

### Abstract

A methodology definition is a natural way to specify what information is and what it should be like, and to define the epistemological and other principles which can serve as foundation for an improved creation and use of information. The Polyscopic Modeling definition is proposed as a prototype of this approach.

### Introduction

The vision behind the Polyscopic Modeling methodology is similar to the one that has motivated the Visual Literacy movement, namely that information can play a far more positive and central role in our lives and culture if it is created and used in an informed or *conscious* way (Karabeg, 2003c). A methodology is information about information, a foundation for an informed informing.

The Polyscopic Modeling methodology has been proposed as a prototype illustrating the issues, ideas and possibilities within the methodological approach to information (Karabeg, 2003a). The Polyscopic Modeling methodology provides a terminology for expressing what is subtle or essential about information, criteria which state what information should be like, principles specifying the epistemology and the approach based on which desirable information can be created, methods for creating such information and examples showing what new kinds of information may look like and what practical consequences they might have.

In (Karabeg, 2003b) the motivation for the *methodological* approach to information is explained in terms of ten large anomalies which plague our present creation and use of information. A familiar example of an anomaly is the information overload. It is explained how the approach to information defined by the Polyscopic Modeling methodology can lead to a resolution of the anomalies.

Another anomaly is that we are lacking a method for producing reliable and credible information about the basic issues of human life such as lifestyle choices, values, relationships, well-being and spirituality, which have always been the very core of culture. Until recently, those issues have been handled by tradition. Wherever the traditional patterns and recipes no longer apply or we do not believe in them and use them, we must consciously take care of this most central information need. An objective of the methodological approach to information is to develop and establish methods, akin to the traditional "scientific method," for creating reliable *basic information*. A closely related objective is to preserve, revitalize and integrate the basic information heritage of various cultural traditions which has recently become available to us.

One of the anomalies which have motivated the Polyscopic Modeling methodology is the lack of criteria for "truth" or good information in general. First the authority of the religious and other traditional standards has been shaken up by science, and then the authority of science has been undermined by the realization that the "scientific truth" is also relative. The main purpose of the methodology definition is to provide clear epistemological foundations and criteria for creating information. This is done by *postulating* principles and criteria. Owing to its postulated definition, the Polyscopic Modeling methodology is a convention which can be read, agreed upon and used for creating credible and reliable information about basic questions.

A methodology definition is a natural way to bring the insights and intentions of philosophical phenomenology and constructivism, which have been developed in order to remedy the mentioned epistemological anomaly, into practice. When the constructivist credo (that we are not discovering reality but *constructing* it) is stated as a fact about reality and placed into the philosophical tradition, which has developed as an attempt to discover reality, the outcome is inconsistent and controversial. When, however, the same fact is stated *as a postulate*, it can serve as a foundation for a completely new and consistent approach to information. This possibility has been developed in the Polyscopic Modeling definition.

The motivation for Polyscopic Modeling is summarized in visual form in terms of the Information Design Challenge Ideogram (Figure 1) where *modern culture* is depicted as a bus and its *traditional informing* as the headlights of the bus, which are traditional candles. The message of this ideogram is that information needs to fulfill an essential role in modern culture which our existing *traditional informing* does not fulfill, namely to allow us to make basic choices consciously (with awareness of their consequences) and in that way give a meaningful direction to the use of technology, as well as to our culture itself. The *information design challenge* is the challenge of designing an *informing* which can fulfill such a role. The Polyscopic Modeling methodology has been proposed as a prototype answer to the information design challenge. The role of the Polyscopic Modeling definition is to provide a foundation on which such need-based or conscious *informing* can be developed.

We may interpret the Information Design Challenge ideogram as a statement that we need an *informing* which can give us a different, *holistic* way of seeing and understanding the issues. The *holistic* thinking has been pointed out as the main characteristic of the emerging cultural paradigm (Capra, 1993). The Polyscopic Modeling methodology definition may be understood as a proposal for a foundation on which a *holistic informing*, namely an *informing* which leads us to a holistic vision and thinking, may be developed. The methodology as a whole may be understood as a result of holistic thinking applied to information and informing.

**Figure 1**  
Information Design Challenge Ideogram



Every polyscopic modeling document is an opportunity to experiment and introduce a new presentation style or format. In this article we introduce and use the Polyscopic Modeling *notes style*, where a theme is explored in terms of loosely structured, informal and brief *notes*, possibly to be expanded and elaborated in a future study.

### Structure Of The Polyscopic Modeling Definition

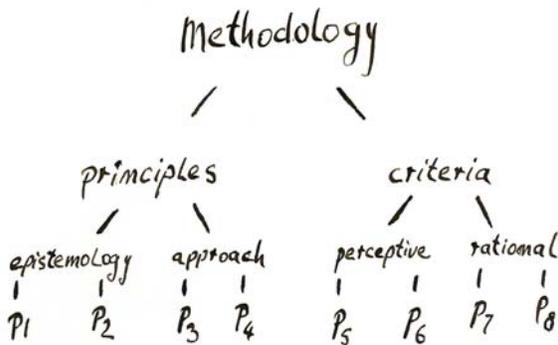
The Polyscopic Modeling definition consists of an information model and eight postulates. The information model gives an intuitive idea of *polyscopic information* which is the objective of the methodology. The postulates define the epistemology, the approach and the criteria for creating polyscopic information.

Each of the nine elements of the Polyscopic Modeling definition is presented in terms of a brief statement followed by an *explanation*, a *comparison* and a *justification*. The *explanation* provides several interpretations of the statement (this is legitimate because in polyscopic modeling a statement can have multiple interpretations). The *comparison* explains how the given element of the Polyscopic Modeling definition delineates a departure from common or *traditional informing* practice. The purpose of the *justification* is to substantiate such departure.

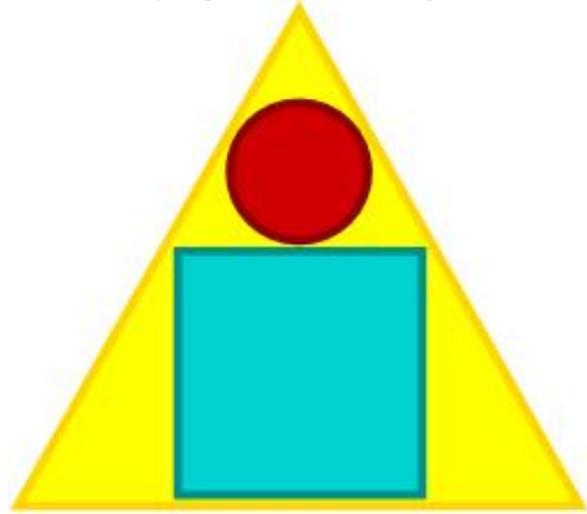
The postulate justifications are particularly important because they are the source of the credibility for the entire methodology. Each postulate is *founded* in two independent ways. The first way is by showing that what is stated by the postulate corresponds with the state-of-the-art methodological insights and views. There it is shown that the postulate is either stating something which is solidly established, or postulating something which is consistent with common sense and obviously natural and necessary. The other form of justification is by showing that what is postulated is necessary for fulfilling the role that information needs to fulfill in our culture. Since a postulate is a convention, its meaning is independent from what is common and accepted and the above two lines of justification are independent from each other.

As shown in Figure 2, the Polyscopic Modeling postulates are divided into two parts: the principles and the criteria. The criteria specify what *information* should be like. They are divided into perceptive (or artistic), and rational (or scientific). The principles specify the epistemology and the approach based on which the desired information can be *designed*.

**Figure 2**  
Polyscopic Modeling Definition Structure



**Figure 3**  
Polyscopic Information Ideogram



### Polyscopic Information

The Polyscopic Information ideogram (Figure 3) depicts the idea of information on which polyscopic modeling is based. The ideogram is the letter "i" inscribed in a triangle. The "i" stands for "information." The triangle represents the *polyscopic hierarchy*, which is a hierarchy of points of view or *scopes*. Intuitively, the triangle may be thought of as representing a mountain, where each *scope*, like a standpoint on a mountain, offers a distinct view. The *high-level* views, like the view from the top of a mountain, show the large picture but not the details, while the *low-level* views show the details but not the large picture. The *high-level information* is the kind of information which would allow us to see the forest but not the trees, while the *low-level information* would show us the trees but not the forest.

The "information i" is composed as a circle on top of a square. The circle represents the *high-level information*. The square represents the *low-level information*.

#### Explanation

The message of the Polyscopic Information ideogram is that the polyscopic information is not a homogeneous, flat collection of facts, but a structure of *coherent views* (a *view* is *coherent* if it is like a view from a single point on a mountain, i.e. if it reflects a single level of detail, way of looking etc.). As the circle is distinct from the square, so are the *high-level views* presented separately from the *low-level views*, in distinct modules.

The circle is “rounded,” it has no corners or straight edges. The circle is commonly used as a symbol of the whole and of holism. By representing the *high-level information* by the circle, the ideogram is suggesting that its main purpose is to present a clear and concise idea of a whole.

The square is stable and straight, it has multiple sides and sharp corners. The square symbolizes precision and objectivity. The ideogram suggests that the polyscopic *low-level information* is precise, analytical and detailed.

The square serves as the foundation for the circle. It is suggested that polyscopic information consists of *high-level views* which are *founded* in *low-level* ones (*founded* roughly means *justified* or “proven”).

The art (etymologically related to “arm” and “articulation”) stands for synthesis and expression. Science (etymologically related to “schism” and “scissors”) stands for analysis and distinction. The circle may be interpreted as a symbol for art, the square may be interpreted as a symbol for science. The ideogram suggests that polyscopic information (the “i”) is a single whole, in which even art and science are not considered as different kinds of information but as distinct aspects or sides of all information.

#### Distinction

The polyscopic information needs to be distinguished from the idea of information as a flat collection of pieces of information or facts which, like pieces in a jigsaw puzzle, compose the picture of reality. In Polyscopic Modeling everything can *and needs to be* seen from multiple angles and at different levels of detail.

Polyscopic modeling is a departure from the common idea that the task of information making is to discover and communicate facts. The task of polyscopic modeling is to reconstruct the polyscopic hierarchy. Since information is now lacking mainly on the *high-level*, the *high-level information* is given priority.

Polyscopic modeling needs to be contrasted with the *traditional informing* where the themes are divided across traditional professions or disciplines. The domain of polyscopic modeling is all information, including arts, sciences and media informing.

The Polyscopic Information ideogram stands for information which is organized as a structure of modules, each presenting a distinct *coherent view*. This is in contrast with the usual *flat* and *linear* information presentation styles.

The polyscopic information consists of a concise and rounded *high-level view* usually representing a claim or result, which is *founded* upon multiple *low-level views*. This stands in contrast with the narrative style which is usual in traditional informing.

#### Justification

Scientific information is a hierarchy. In science it has been understood that it is neither possible nor desirable to try to eliminate the higher levels of the hierarchy by reducing them to lower-level ones (Feynman, 1967).

Modular, hierarchical organization has proven to be the effective way to structure and understand large computer programs (Dahl, Dijkstra and Hoare, 1972). In Polyscopic Modeling, the same principle is applied to information at large.

*High-level information*, like the view from the top of the mountain, serves for choosing directions; the *low-level information* provides the details and the know-how for following the chosen direction. In the culture which depends on conscious choice, the choice of direction is essential. It is not difficult to see (by reflecting, for example, upon the sustainability issue) that we as a culture are very good at creating means, but poor at choosing the ends to which those means are applied. Polyscopic Modeling endeavors to remedy this problem through conscious creation and use of *high-level information* (Karabeg, 2003c).

The information overload may be understood as a crisis of meaning (Wurman, 2001). The *low-level information* provides the data, the *high-level information* provides the meaning. Polyscopic Modeling may be understood as a way to create meaning.

The information overload may be seen as a consequence of having large amounts of *fragmented low-level information* (one which does not have the corresponding *high-level information* which would make it understandable and accessible). In Polyscopic Modeling the *high-level information* serves as pointers or as index to *low-level information*, making its existence known and access to it efficient. The *high-level information* can often make massive details unnecessary by replacing them with a general principle or insight.

The *high-level information* in science corresponds to general principle, and in popular culture to knowledge and wisdom. Hence the emphasis of *high-level information* is natural and useful.

The idea that things are not either known or unknown, but that they must be made known on different levels of *polyscopic hierarchy*, is culturally important. A more careful investigation will reveal a wealth of instances where something is known on the *low-level*, but ignored because it contradicts a largely tacit myth on the *high-level*. We may, for example, “know” that smoking is bad for us, but smoke anyway because we believe (on a much *higher level*) that what feels pleasant for us truly brings us pleasure. We may “know” that our planet needs to be rescued, but still do nothing because (on a much *higher-level*) we believe that our world is well functioning and stable. While our *low-level information* is consciously cared for (for example through science), our *high-level information* is largely abandoned to myth and advertising. A purpose of the Polyscopic Modeling definition is to provide a foundation for creating reliable *high-level information* and using such information in decision and choice making.

### **Postulate 1: Information is recorded experience**

#### Explanation

Postulate 1 is saying that *information* is not an exact picture of reality, but an imperfect record of human experience. Its purpose is to record and communicate experience.

Postulate 1 states that experience is the measure of all “truth.” Within the Polyscopic Modeling methodology there is no way to deny experience because it contradicts our ideas about reality.

Postulate 1 identifies *information* as human evolutionary heritage, similar in role to the genetic information. Since written and other forms of *information* allow us to record and communicate experience by using “software” rather than “hardware” (our genetic code), *information* has in effect allowed our species to evolve much faster than other species in nature.

Postulate 1 defines a very general and inclusive notion of *information*. For example, a chair is also *information* (more precisely, a chair has an *information aspect*) because it records human experience about sitting. Embodied *information*, visual *information* and *implicit information* are also included by this definition.

#### Comparison

Postulate 1 departs from the common idea that the purpose of information is to give us a true and complete picture reality (the *naïve epistemology*). Postulate 1 frees *information* from its traditional preoccupation with “truth” and “reality” in order to apply it to the vital issues of adaptation, sustainability and cultivation.

Postulate 1 leads to a different way of evaluating information than what follows from the *naïve epistemology*. If the purpose of information is to give us a complete and accurate picture of reality, then every “new” piece of information is a necessary part of that picture and therefore relevant and useful. Postulate 1 invites us to create and use *information* in a way which best suits our evolution.

Postulate 1 departs from the common idea that a piece of information is not valid if it is not established by the traditional scientific method. Postulate 1 allows us to establish facts about any subject simply by referring to experience.

#### Justification

Postulate 1 reflects the main epistemological credo which characterizes modern science (Einstein, 1954; Heisenberg, 1962). Polyscopic Modeling may be considered as a prototype or a proposal for a general-purpose *informing* which is consistently based on the epistemology of modern science.

The need for Postulate 1 may be understood if we consider the *traditional culture* to be the spontaneous evolution in culture, and the *modern culture* as a break-up of the *traditional* mentality and structures. While in the *traditional culture* our recording and communication of experience was spontaneous and automatic, now we must consciously take care of our information heritage and its continued development.

Postulate 1 is necessary both for the *high-level information* creation and for the preservation of traditional information heritage. The following example will clarify this point. Much of the Ayurvedic healing and culinary tradition is based on an idea of digestive fire called *Agni* which burns in our stomach. Since from the conventional scientific point of view this is plain nonsense (we *know* that the digestive metabolism is far more complex than that), we may discard all of Ayurveda as a collection of pre-scientific ideas without giving it much thought. From the Polyscopic Modeling point of view, however, *Agni* is a *high-level model*, which might be exactly the sort of thing we modern people need in order to understand our health in simple terms and take care of it. Furthermore, this model, as well as the Ayurvedic teaching at large, is a record of the experience and insights of one whole tradition of health practitioners, something which should not be so lightly discarded.

#### **Postulate 2: The scope determines the view**

##### Explanation

Postulate 2 may be understood as a functional definition of *scope*. According to this definition, the *scope* is whatever determines our view (where “view” is, of course, understood abstractly). We may identify the terms of language we are using, the method we use to explore reality, our worldview etc. as elements or determinants of our *scope*.

Postulate 2 may also be understood as saying that our language, method, worldview etc, in other words all the elements of our *scope*, have the deciding effect of what we are able to see and comprehend.

According to the *symbolic epistemology* of Polyscopic Modeling, our experience (as well as the “reality” or whatever is reflected by experience) is not assumed to have any more a-priori structure than an ink blot in the Rorschach test. Rather, our concepts and ideas *impose* a structure on experience. This harmonizes well with the etymology of the word “information” (in + formation) which suggests that information is something which puts our thoughts and experiences into a specific form.

##### Comparison

Postulate 2 needs to be contrasted with the belief that the “scientific method” or any other method gives us a complete and exact picture of reality. The postulate states that every conceptual scheme and every method is only a *scope*, which allows us to see certain things and hides others.

##### Justification

Postulate 2 reflects the epistemological position which has been the guiding principle as well as the result of the transition from 19th century to modern science (Einstein, 1979). In linguistics, this postulate expresses the essential message of Ferdinand de Saussure, “the arbitrariness of the sign” (Saussure, 1916; Normand, 2000).

The need for this postulate comes from the obvious fact that in the changing culture we need to be able to think in new ways. This postulate allows us to become aware of the limitations imposed by our usual ways of looking at things.

Postulate 2 is the foundation for the polyscopic modeling approach which is defined in Postulate 4. It is so fundamental to the Polyscopic Modeling methodology that it is called the *polyscopic modeling principle*.

#### **Postulate 3: Information design is design of information**

##### Explanation

In the Polyscopic Modeling methodology *design* is defined as “the alternative to *tradition*.” (Karabeg, 2003a). Postulate 3 defines *information design* as an alternative to all *traditional informing*.

*Information design* means designing information (and *informing*) according to the needs of the *culture*, so that the *culture* as a whole can fulfill its purpose. Postulate 3 defines *information design* as an approach to information where *information* is considered as an essential element of the whole (the culture, an organization) and created and used as it best suits its role within the whole.

##### Comparison

*Information design*, as defined by this postulate, is the alternative to creating information according to the hereditary rules of traditional professions and disciplines, which is now common.

*Information design* is an alternative to consuming information based on taste or interest. We are acknowledging that information must fulfill a vitally important role in our lives and culture, and we create and prioritize information accordingly.

##### Justification

From the point of view of logic, Postulate 3 is a tautology.

To see the need for *information design*, it is best to consider it within the context of the on-going *cultural paradigm change*. The *traditional informing* is something which structurally and functionally belongs to the *traditional culture*. As much as our culture is no longer a functioning tradition, it requires *information design* in order to be able to function and evolve as a *culture*.

#### **Postulate 4: Polyscopic modeling is information design by scope design**

##### Explanation

Postulate 4 defines the *polyscopic modeling* approach. By definition, *polyscopic modeling* is the practice of designing information by designing *scopes*. According to this postulate, the main characteristic of the polyscopic modeling approach is that the subjects, concepts, methods etc. are *designed* (created or chosen consciously).

Postulate 4 states that the products of polyscopic modeling, namely the polyscopic modeling concepts, methods, results and theories, are also *scopes*.

##### Comparison

*Polyscopic modeling*, as defined by this postulate, is a departure from the *traditional informing* practices which are confined to the *scopes* of traditional disciplines or professions.

Postulate 4 also departs from the common belief that our concepts and theories (are supposed to) reflect objective reality. According to the postulate, our concepts and theories are *scopes* - ideal and abstract objects freely created by us, through which we look at experience and which we fit to experience in order to organize it and communicate it.

##### Justification

*Scope design* is the natural way to do *information design*. If we want to choose the subjects consciously and freely, and if we want to adapt the method to the subject and not the other way around, we need to be able to design *scopes*.

*Scope design* is necessary in *modern culture*. It is very much like a flexible search light, allowing us to create a versatile and adaptable source of cultural vision. In a rapidly changing culture, any fixed way of looking at things may, like candle headlights on a bus, lead to a disaster.

*Scope design* is what is needed for creating *polyscopic information* and resolving the anomalies such as the information overload (or *information fragmenting*).

*Scope design* allows us to create rigorous and precise theories wherever they are needed. For example, the fact that *modern culture* requires *information design* in order to be able to evolve and function as a *culture* follows directly from the definition of those concepts.

*Scope design* allows us to extend the scientific approach to all informing. According to Postulate 4, our claims, theories or models are similar in function to the instruments (such as a microscope or a telescope) which a scientific author specifies to the readers when describing an experiment. Every communication and justification can then be considered as an “experiment” which is successful to the extent that what is seen corresponds to what is claimed.

#### **Postulate 5: Information needs to provide a clear and correct perspective**

##### Explanation

Postulate 5 defines the perspective criterion of Polyscopic Modeling. It postulates that *information* should allow us to see whatever we are talking about *as a whole*, in clear and correct terms. A visual definition of the perspective criterion and an explanation why this criterion leads to a more prominent role of visual information is given in (Karabeg, 2000).

The word “perspective” is derived from the Latin word “*perspicere*” which means “to look through.” This already gives us a good *high-level* idea of the message of this postulate, which is that information should be such that it illuminates what is obscure or hidden so that we can “see through” the whole, as if it were transparent.

A *clear perspective* means that nothing is left hidden or obscure, that every part of the whole is visible. This does not mean that all the details are necessarily given in one picture, on the contrary. If too many details are given, the *perspective* is no longer clear. Suitable *scope*, and in particular the right *level* in the *polyscopic hierarchy*, must be chosen in order to make a subject transparent. The underlying credo is that *the complexity is in the eyes of the beholder*, and that every subject can be made transparent by a suitable choice of the *scope*.

A *correct perspective* means that the idea of the whole is not distorted by putting too much emphasis on one part and too little on another. We need to be given a correct idea of the position and importance of all the essential parts within the whole.

#### Comparison

The perspective criterion delineates a departure from the common *informing* which is oriented by factual truth as criterion. Factual truth allows us, and even *encourages* us to isolate a detail from the whole and to make it the focus of informing. The *perspective* criterion states that the facts are not enough, that we must understand the relative importance and position of the pieces, and how they fit together and compose a whole. Above all, information must provide a clear and correct idea of the whole.

The *perspective* criterion leads to an orientation in *informing* which is complementary to our *traditional* one. While the factual truth criterion encourages us to “focus at what is seen in the light of a candle” (i.e. report whatever is clearly visible in the light of the existing traditional methods), the perspective criterion demands that we “look into the dark” (seek the information which illuminates that which remains hidden when we look in a more conventional way).

#### Justification

The *perspective* stands for “the whole truth.” If we are withholding something essential, we are not really telling the truth.

By requiring to “look into the dark,” the perspective criterion encourages us to create the sort of vision that is required by our culture, which shows us what we really need to see.

The *perspective* criterion supports the holistic thinking and informing.

#### **Postulate 6: Information needs to be *nourishing***

##### Explanation

Here “nourishment” is used as a metaphor. Postulate 6 is saying that information, like food, has hidden but essential effects which must be consciously taken into account. As food nourishes our bodies, so does information nourish our feelings, ideas and values. The effects of this nourishment, like the effects of physical nutrients or the lack of them, often take a long time to develop and manifest. Those effects are, however, essential and often dominant.

Postulate 6 gives prominence to the so-called *implicit information* (Karabeg, 2002) which is conveyed by pictures, fonts, style of writing, tone of voice and body language.

Postulate 6 stands for the “artistic” value of information. It says that we need to apply the criteria which are traditionally reserved for art and literature to all information.

#### Comparison

Postulate 6 departs from the common idea that information is explicit, objective and factual. It states that we should watch for the subtle messages and effects in information.

Postulate 6 departs from the common ethical and legal value judgment according to which information is acceptable as long as it does not violate factual truth.

#### Justification

By saying that there is something in information which is non-obvious but essential, which must be taken into account if we should understand, use and create information correctly, Postulate 6 is expressing the main message of visual literacy (Karabeg, 2002).

While our ethics, legislation and education are focusing almost entirely on the factual or *explicit* information, the subtle *implicit information* is ruling our culture, through advertising and other more subtle means.

A large share of our cultural heritage has subtle *nourishment* as the main purpose: art, poetry, spiritual texts and music... This heritage needs to be consciously valued and preserved. Postulate 6 offers a foundation for such practice.

All information has a subtle (either positive or negative) nourishing effect on us. Consider, for example, the TV news: What emotions and what attitudes do they nourish?

#### **Postulate 7: Information needs to be relevant**

##### Explanation

The meaning of this postulate is that more relevant information must be given priority over less relevant information. Functional concept definitions (for example the definition of *culture* as “cultivation of well-being”) provide the necessary context for evaluating relevance.

#### Comparison

Postulate 7 is a departure from the common belief that every “true” piece of information is also relevant, because it is a piece in the “reality puzzle”.

Postulate 7 is an advice against using the media information according to spontaneous interest or attraction.

#### Justification

Postulate 7 is a truism.

Postulate 7 expresses the fundamental unfulfilled need in *modern culture* to consciously prioritize information. We live in a world where very many things compete for our attention. There are certain functions which information *must* fulfill for us. There are also some truly wonderful things that information *may* do for us. We must consciously secure that the information which is truly relevant and useful is given priority.

### **Postulate 8: Information needs to have a broad and solid foundation**

#### Explanation

The message of Postulate 8 is that every piece of information needs to be *founded* in some form of value judgment. Intuitively, we may imagine the culture as a house made of information, where each piece of information either stands on top of other pieces, or on the “solid ground” of experience.

Postulate 8 says that every piece of information needs to be founded as *solidly* and as *broadly* as possible. The foundation is *broad* if it is accessible to many people and if it uses multiple types of judgment. The foundation is *solid* if it cannot be “shaken up” (i.e. “falsified,” for example by an expert).

Postulate 8 invites us to extend science (understood as the creation of well-founded information) to all relevant questions.

#### Comparison

The practice of formulating a clear claim and then founding it carefully, which is recommended by Postulate 8, stands in sharp contrast with the narrative style which is common in both social sciences and media informing.

The practice of *founding* information, which is suggested by this postulate, departs from the common practice of founding *basic information* upon unverified reliance on tradition, taste or popular myth.

#### Justification

This postulate demands that we distinguish good information from nonsense and misinformation, which is obviously reasonable and necessary.

Since *information* determines our basic choices, careful *founding* of *information* is a profound and necessary political act.

In *traditional culture* the *basic information* is founded in the reliance on tradition, which is justifiable because the elements of a tradition have been tested by many generations of use. In *modern culture* this source of reliability is no longer there. Therefore the *basic information* must be founded consciously.

The practice of carefully founding facts allows us to use those facts as building material and as foundation for *higher-level* facts, and in that way rebuild the *polyscopic hierarchy*.

### **Concluding Remarks**

The vision which has motivated the development of the Polyscopic Modeling methodology is given by the Information Design Challenge ideogram (Figure 1): By *designing* the way we create and use information, we may be able to turn our incongruent and dangerous situation into an orderly and pleasant one. Having explored this possibility for about a decade, I believe that through *designing* information we may be able to rediscover culture and its various elements (art, science, tradition, lifestyle choices, relationships, values and others) in a completely new way and thereby engage in a profound and far-reaching *cultural paradigm change*.

The Polyscopic Modeling methodology is proposed as a design prototype showing what this approach to information may be like and what effects it might have. The Polyscopic Modeling definition is offered as a prototype of a foundation on which the methodological approach to information may be developed.

### **References**

- Capra, F. (1993). *A Systems Approach to the Emerging Paradigm*. In Ray and Rinzler: *The New Paradigm in Business*. Putnam.
- Dahl, O. Dijkstra, E. Hoare, C (1972). *Structured Programming*. Academic Press.
- Einstein, A. (1954). *Physics and Reality*. The Journal of the Franklin Institute 221/3, March 1936. Reprinted in Einstein: *Ideas and Opinions*. Crown.
- Einstein, A. (1979). *Autobiographical Notes*, pp. 11-13. Open Court.
- Feynman, R. (1967). *The Character of Physical Law*, pp. 116-120. MIT Press.
- Heisenberg, Werner. *Physics and Philosophy*. Harper, 1962.
- Karabeg, D. (2000). *Ideograms in Polyscopic Modeling*. Proceedings of the IEEE Infovision2000 conference, London, England, July 19-21.

Robert Griffin et al. (Ed.): Changing Tides. Selected Readings of IVLA, 2004.

Karabeg, D. (2002). *Perspective of Visual Literacy*. In *Visual Literacy in Message Design*. Griffin, Lee and Williams Ed. International Visual Literacy Association.

Karabeg, D. (2003a). *Designing Information Design*. Information Design Journal 11/1.

Karabeg, D. (2003b). *Information Design – a New Paradigm in Creation and Use of Information*. Proc. IPSI-2003 VIP Conference.

Karabeg, D. (2003c). *Information for Conscious Choice*. Information Design Journal, to appear.

Normand, C. (2000). *Saussure*. Les Belles Lettres.

Saussure, F. (1916). *Cours de Linguistique Générale*. Payot.

Wurman, R.S. (2001). *Information Anxiety 2*. QUE.