

WHAT ARE BELIEF SYSTEMS?

J.L. Usó-Doménech and J. Nescolarde-Selva

Department of Applied Mathematics. University of Alicante. Alicante. Spain.

In beliefs we live, we move and we are [...] the beliefs constitute the base of our life, the land on which we live [...] All our conduct, including the intellectual life, depends on the system of our authentic beliefs. In them [...] lies latent, as implications of whatever specifically we do or we think [...] the man, at heart, is believing or, which is equal, the deepest stratum of our life, the spirit that maintains and carries all the others, is formed by beliefs... (Ortega y Gasset)

We know that the human being is a social animal. This is a common fact. Moreover, the human being is defined as a rational being. It is clear and nobody can deny that human creations include logic, mathematics, philosophy, science, and jurisprudence. These are all products of rationality or abstract thought. Nevertheless, human sociability goes further than the sociability of an animal herd. Societies were founded, cohere, develop, degenerate and die based on their belief systems. Reason cannot prove the beliefs it is based upon. Beliefs arise through experience. Experience needs previous beliefs and reason to be assimilated, and reason needs experience to be formed, as beliefs need reason as well. Beliefs, reason and experience, are based upon each other. Context is dynamic, and formed upon beliefs, reason and experience. This is where relative understanding lies. As relative understanding is independent of our context, it is also dependant on our beliefs, reasoning, and experiences. Contexts are dynamic because they are changing constantly as we have new experiences and change our beliefs and our ways of reasoning.

The use of the term "*belief system*" can be highly confusing. Psychologists, political scientists and anthropologists tend to use the term in rather different senses. There is some network of interrelated concepts and propositions at varying levels of generality, and there are some processes by which a human or a computer accesses and manipulates that knowledge under current activating circumstances and/or in the service of particular current purposes. Belief systems are structures of norms that are interrelated and that vary mainly in the degree in which they are systemic. What is systemic in the Belief system is the interrelation between several beliefs. What features warrant calling this stored body of concepts a belief system? Belief systems are the stories we tell ourselves to define our personal sense of Reality. Every human being has a belief system that they utilize, and it is through this mechanism that we individually, "*make sense*" of the world around us. Perceived Reality is constructed by means of systems of signs, being affected and being changed by means of Belief systems. A subject cannot understand a sign without talking about to a system that is learned socially and that allows him to make sense of perception. In the same way, the classification of signs in closed typologies can be deceptive, since the status of the sign depends strongly on the form in which the sign is used within the Belief system. A significant can nevertheless be iconic in a belief context and, to be symbolic in another context. From these we can see that people are capable of constructing all manner of individual beliefs by which they tell stories about how the world works. As humans, we tend to use all these belief systems to varying degrees to cope with events in our lives. Ultimately we need the world to make sense at some level. Therefore, those areas where that "*sense of reality*" is most challenged will tend to be the areas in which the most controversies exist.

Moreover, these signs are not rational. The species *Homo sapiens* developed so-called belief systems. These are sets of beliefs reinforced by culture, theology, and experience and training as to how the world works cultural values, stereotypes, political viewpoints, etc. Beliefs are often considered as convictions or as religious beliefs, but as scientists, there are also philosophical beliefs relating to the sphere of daily life. If a stimulus is received, it may be interpreted through the belief system to be whatever the belief system might lead the recipient to rationalize. A belief system need have no basis in reality so long as it consistently provides adequate explanations. It takes us to define a human being like *Homo religious*.

1. CHARACTERISTICS OF BELIEF SYSTEMS

Belief system has the appropriate properties, and through them social significance. Some characteristics of belief systems are:

- 1) *Personal commitment* is one of most observable and interesting features of an ideology. If it were not for the fact of personal commitment, belief systems could not have strong social consequences, and it has not interesting the study of social systems.
- 2) Belief systems have an *existence* that is independent of the believers who experienced the commitment. The believers do not contain the belief system; in fact, he is unlikely to be aware of more than a small part of it and, knowingly or unknowingly, he must take the rest of the belief system on faith.
- 3) *Psychological mechanisms such as cognitive congruence* may help explain individual commitment, but they do not necessarily explain the connectedness of a belief system in human society.
- 4) The *life span* of a belief system is potentially longer than the life span of believers.
- 5) Belief systems *vary* almost infinitely in substantive content.
- 6) The *boundaries* of a belief system are generally, although not always, undefined. Collections of beliefs do not generally have neat boundaries unless.
- 7) The *elements* (concepts, propositions, rules, etc.) of a belief system are not consensual. That is, the elements of one system might be quite different from those of a second in the same content domain. And a third system different from both. Individual differences of this kind do not generally characterize ordinary knowledge systems, except insofar as one might want to represent differences in capability or complexity. Belief systems may also vary in complexity, but the most distinctive variation is conceptual variation at a roughly comparable level of complexity. An interesting sidelight on the consensuality question is whether a belief system is "*aware*," in some sense, that alternative constructions are possible. For cognitive science, the point of this little discussion is that nonconsensuality should somehow be exploited if belief systems are to be interesting in their own right as opposed to knowledge systems. Belief systems often appear to have clear boundaries when the separation is really between social groups.
- 8) Belief systems are in part concerned with the *existence or nonexistence of certain conceptual entities*. God, motherland, witches, and assassination conspiracies are examples of such entities. This feature of belief systems is essentially a special case of the nonconsensuality feature. To insist that some entity exists implies an awareness of others who believe it does not exist. Moreover, these entities are usually central organizing categories in the belief

- system, and as such, they may play an unusual role which is not typically to be found in the concepts of straight knowledge systems.
- 9) Belief systems often include *representations of alternative worlds*, typically the world as it is and the world as it should be. Revolutionary or Utopian belief systems especially have this character. The world must be changed in order to achieve an idealized state, and discussions of such change must elaborate how present reality operates deficiently, and what political, economic, social (etc.) factors must be manipulated in order to eliminate the deficiencies.
 - 10) Belief systems rely heavily on *evaluative and affective components*. There are two aspects-to this, one 'cognitive; "*the other "motivational."* Belief system typically has large categories of concepts defined in one way or another as themselves "*good*" or "*bad*," or as leading to good or bad. These polarities, which exert a strong organizing influence on other concepts within the system, may have a very dense network of connections rare in ordinary knowledge systems. From a formal point of view, however, the concepts of "*good*" and "*bad*" might for all intents and purposes be treated as cold cognitive categories just like any other categories of a knowledge system.
 - 11) Belief systems are likely to include a *substantial amount of episodic material* from either personal experience or (for cultural belief systems) from folklore or (for political doctrines) from propaganda.
 - 12) The *content set* to be included in a belief system is usually highly "*open*." That is, it is unclear where to draw a boundary around the belief system, excluding as irrelevant concepts lying outside. This is especially true if personal episodic material is important in the system. Consider, for example, a parental belief system about the irresponsibility and ingratitude of the modern generation of youth. Suppose, as might very well be the case, that central to this system is a series of hurtful episodes involving the believer's own children. For these episodes to be intelligible, it would be necessary for the system to contain information about these particular children, about their habits, their development, their friends, where the family lived at the time, and so on. And one would have to have similar conceptual amplification about the "self" of the believer.
 - 13) Beliefs can be held with varying *degrees of certitude*. The believer can be passionately committed to a point of view, or at the other extreme could regard a state of affairs as more probable than not. This dimension of variation is absent from knowledge systems. One would not say that one knew a fact strongly. There exist some examples of attempts to model variable credences or "*confidence weights*" of beliefs and how these change as a function of new information. A distinction should be made between the certitude attaching to a single belief and the strength of attachment to a large system of beliefs.

2. ELEMENTS OF BELIEF SYSTEMS

The following elements are listed in the order that would be logically required for the understanding a first approach of a belief system. This does not imply priority in value or in causal or historical sense.

- 1) *Values*. Implicitly or explicitly, belief systems define what is good or valuable. Ideal values tend to be abstract summaries of the behavioral attributes which social system rewards, formulated after the fact. Social groups think of

themselves, however, as setting out to various things in order to implement their values. Values are perceived as a priori, when they are in fact a posteriori to action. Having abstracted an ideal value from social experience, a social group may then reverse the process by deriving a new course of action from the principle. At the collective level of social structure, this is analogous to the capacity for abstract thought in individual subjects and allows great (or not) flexibility in adapting to events. Concrete belief systems often substitute observable social events for the immeasurable abstract ideal values to give the values in fact immediate social utility.

- 2) *Substantive beliefs (Sb)*. They are the more important and basic beliefs of a belief system. Statements such as: *all the power for the people, God exists, Black is Beautiful*, and so on, comprise the actual content of the belief systems and may take almost any form. For the believers, substantive beliefs are the focus of interest.
- 3) *Orientation*. The believer may assume the existence of a framework of assumptions around his thought, it may not actually exist. The orientation he shares with other believers may be illusory. For example, consider almost any politic and sociologic belief system. Such system evolves highly detailed and highly systematic doctrines long after they come into existence and that they came into existence of rather specific substantive beliefs. Believers interact, share specific consensuses, and give themselves a specific name: Marxism, socialism, Nazism, etc. Then, professionals of this belief system work out an orientation, logic, sets of criteria of validity, and so forth.
- 4) *Language*. It is the logic of a belief system. Language **L** of a belief system is the logical rules which relate one substantive¹ belief to another within the belief system. Language must be inferred from regularities in the way of a set of substantives beliefs in the way a set of beliefs is used. The language will be implicit, and it may not be consistently applied. Let Sb be a substantive belief. We propose the following rules of generation of belief systems:

$$R1 \rightarrow Pr ed \rightarrow subs tan tive \ beliefs \rightarrow \bigcup_{k=1}^n Sb_k = Sb_j$$

$$R2 \rightarrow Arg \rightarrow hypothesis + goal \rightarrow why \ and \ what \ for?$$

$$R3 \rightarrow T \rightarrow Pr ed \wedge Arg$$

$$R4 \rightarrow T \rightarrow T[(\&)]^n, n \geq \emptyset$$

$$R5 \rightarrow \& = \begin{cases} \wedge \\ \vee \\ \equiv \end{cases}$$

Argument is formed by the sum of two characteristics: hypothesis, that is to say, so that this physical and social reality? And goal: as we want is this society to reach its "perfection" (utopia).

¹ Substantive beliefs constitute the axioms of the system, while many of derived beliefs will constitute their theorems.

- 5) *Perspective*. Perspective of a belief system or their cognitive map is the set of conceptual tools. Central in most perspectives is some statement of where the belief system and/or social group that carries it stands in relation to other things, specially nature, social events or other social groups. *Are we equals? Enemies? Rulers? Friends?* Perspective as description of the social environment is a description of the social group itself, and the place of each individual in it. The perspective may be stated as a myth. It explains not only who subjects are and how subjects came to be in cognitive terms, but also why subject exist in terms of ideal values. Meaning and identification are provided along with cognitive orientation.
- 6) *Prescriptions and proscriptions*. This includes action alternatives or policy recommendations as well as deontical norms for behavior. Historical examples of prescriptions are the Marx's *Communist Manifesto*, the Lenin's *What is To Be Done* or the Hitler's *Mein Kampf*. Deontical norms represent the cleanest connection between the abstract idea and the concrete applied belief because they refer to behavior that is observable. They are the most responsive conditions in being directly carried by the social group through the mechanisms of social reward and punishment.
- 7) *Ideological Technology*. Every belief system contains associated beliefs concerning means to attain ideal values. Some such associated beliefs concern the subjective legitimacy or appropriateness of d-significances, while others concern only the effectiveness of various d-significances. For example, political activists and organizational strategy and tactics are properly called technology of the belief system. Ideological Technology is the associated beliefs and material tools providing means for the immediate or far (Utopia) goals of a belief system. Ideological Technology is not used to justify or validated other elements of a belief system, although the existence of ideological technologies may limit alternative among substantive beliefs. Ideological Technology commands less commitment from believers than do the other elements. A change in Ideological Technology (*strategy*) may be responsible for changes in logical prior elements of a belief system. Ideological Technology, like belonging to Structural Base and having a series of prescriptions concerning *doing* can influence the life conditions of believers, thus forcing an adaptation in the belief system itself. Eurocommunism in Western Europe gives to a good historical example. Ideological Technology may become symbolic and it can cause of more fundamental differences between belief systems and, therefore, a source of conflict. Conflicts between anarchists and Communists in the Spanish Civil War or the ideas of Trotsky and those of Stalin in the USSR are examples of it. Much blood has been shed between Muslims and Hindus over the fact that their religions have different dietary restrictions (deontical prohibitions).

3. CONCLUSIONS

Conflict between two groups, including war, may be defined as *a battle between beliefs Systems*. Symbols emerge strongly in such conflicts: they may be revered objects as stones, writings, buildings, flags or badges; whatever they may be, they may symbolize the central core of belief system. When people become symbols, the real person may become obscured behind the projected symbolic image or person. Organizations develop their own in-house culture and belief system, too, which leads them to act and behave in ways that might not seem entirely rational to an outsider. Then: a) Conflicts

are not over Ideological Technology but over what symbolizes technological difference. b) Substantive beliefs are understood only in terms of ideal values, criteria of validity, language and perspective. c) Believer is usually better able to verbalize substantive beliefs than he is values, criteria, logical principles or orientation, which is apt to be the unquestioned bases from which he proceeds. d) Ideal values, criteria of validity, language and perspective may have been built up around a substantive belief to give it significance and justification.