KNOWLEDGE DESCRIPTION: WHAT, HOW AND WHO?

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1. What Is Knowledge?

Knowledge is assumed to be a system, which contains a relation-base and an inference device. There are two types of relations in the relation-base: one is the relations between concept features, the other is the relations between events. A concept is composed of two parts, i.e. concept core and relevant features of the concept. The inference device works on the basis of the relation-base. And also, there are two types of inferences. One is based on concept feature relations of which the typical is shown by the substitution. For example, one may dry his hands by rubbing them against his shirt after washing when he doesn't have a handkerchief at his disposal. The other is based on event relations of which the typical can be seen in a who-done-it story.

2. How to Build the Knowledge System?

Since it is utterly impossible to build a practical knowledge system overnight, we have to set limition to it and to build it step by step. Then shall we make it limited by a specific domain or senario? We suggest that, instead, we should have it limited by the numbers of concepts deliberately selected and by the numbers of the features attached to the selected concept. And we should proceed step by step from the static to the dynamic, from the concept feature relations to the event relations, from the low layer, i.e. more concrete and simple to the high layer, i.e. more abstract and complex, and from the relation-base to the inference device. Currently much efforts have been given to build the taxonomy. It is desirable to select from the taxonomy some essential concepts (e.g. bread, eat, boy, etc.) and determine a certain concept feature circle (e.g. flour for bread, mouth for eat, etc.) in order to build a first-layer prototype of the concept feature relation-base. Next, in the same circle we can try to build a second-layer prototype which is base on more abstract concepts and their features, e.g. food for bread, grain for flour, digest for eat, etc. after that we can try to build the relation network between the selected concept features. The higher and more abstract layer the relation network is based on, the more successful our work will be. It must be emphasized that our aim is not to build an overall knowledge base of mankind, but to build a universal relation system by which ordinary people, normally experts of all the fields, can build their own knowledge base.

3. Who is to build knowledge base?

It is unimaginable that a real practical knowledge base can be built only by AI researchers or so-called knowledge engineers. Knowledge belongs to ordinary human beings, it is in their minds. We should set the job of building knowledge base free from the AI laboratory, and hand it to ordinary experts of various fields. The task of AI researchers or knowledge engineers is to find a practical approach and to build up an operating system, and then help

ordinary people or experts of various fields to build their own knowledge base. Only by doing so, we will have a real knowledge base some day in the future.