

HOW DO PHILOSOPHERS THINK THEIR OWN DISCIPLINE? REPORTS FROM A KNOWLEDGE ELICITATION EXPERIMENT

Michele Pasin, Centre for Computing in the Humanities, Kings College, London, UK

How do philosophy experts orient themselves in the vast lands populated by philosophical ideas? We normally use meta-notions such as 'schools of thought', 'fields of study', 'philosophical systems', 'problems of philosophy' - but how much is the meaning of these notions shared by the community, and furthermore, can we organize them all within a unique, coherent system? In contrast with the frequent designer-centered, top-down approaches to the structuring of a subject domain, in this paper we present a practical experiment aimed at gathering insight into these questions in a bottom-up fashion, that is, directly from philosophers.

According to Kelly's Personal Construct Theory (Kelly, 1955) people develop internal structures of ideas that help them move more fluidly in the world. This constructivist theory emphasizes the role of our interpretations in defining our basic nature: to put it simply, it claims that the way we make sense of the world (i.e. the way we interpret it) is by constructing categories or theories that organize our experiences and sense-data. In particular, an important corollary of this theory is that when considering two (or more) persons, an existing similarity in the experience-constructs (i.e. the interpretations) is likely to suggest a similarity also at the level of their psychological processes. On this basis, Kelly developed structured interviewing methods that attempt to reach this 'deeper' level of the understanding of reality; in particular, this is achieved by means of a statistical analysis of the categories that a set of subjects employ for interpreting a world's sub-domain.

More recently, artificial intelligence related disciplines such as knowledge elicitation (KE) and knowledge acquisition (Kidd, 1987) have used the ideas of Kelly in order to provide solutions to the so-called 'knowledge acquisition bottleneck', that is, the notoriously hard task of extracting knowledge from experts so to then encode it in computer programs (Barr & Feigenbaum, 1982). Researchers in this area presented a number of different approaches that, in general, vary in the degree of structure they impose on the interview process.

In our research we employed one of these approaches within the context of a group of professional philosophers. In a nutshell, by using a KE technique we aimed at making explicit the categories philosophers employ to organize the 'meanings' typical of their discipline. Among the various KE strategies available, we decided to use a card-sorting technique (Barr & Feigenbaum, 1982), first because of its ease of use (for both the respondent and questioner) and implementation, furthermore because, as shown in previous research, it is suitable for non-scalar categories, such as the ones we expected to find in the philosophical domain. In a card sorting session, respondents are usually presented with a number of cards representing domain entities and asked to sort them into groups. In our case, we had 23 cards with printed on them names of philosophical ideas, such as 'monism', 'ego', 'picture theory of language' and 'Wittgenstein's first philosophy'. Respondents were asked to sort the cards according to a subjectively relevant organizing criterion. Once a respondent had generated a number of groups, we recorded the information about the sorting criterion used, the categories that were created, and the entities belonging to each group. The process was then repeated until the respondent ran out of ordering criteria. At the end of the experiment, we analyzed the data by looking at the number and nature of the criteria generated (also called 'constructs'). Criteria can then

be organized by type or because they are common among respondents, to the aim of discovering significant patterns usable for interpreting the data.

We carried out this experiment in the context of evaluating an e-learning application (Pasin, 2007) built to support philosophy learners in navigating through different philosophical materials; the software relies on an internal ontology for philosophy (Pasin & Motta, 2009), that is, a carefully designed conceptual schema implemented with the purpose of facilitating the categorization of the philosophical world. Within this context, by means of this KE experiment we aimed at counterbalance the results of the ontology designers with the direct and non-mediated representations of the domain experts.

The experiment results can be read at least on two levels.

First, they gave us a number of valuable indicators of the correctness of our ontological schema. For example, it emerged that respondents tend to classify philosophical ideas according to whether they are related to specific historical periods, or they exist across the whole spectrum of philosophies. Also, it emerged that people tend to classify theories with relation to their contents, rather than their logical structure. In general, we believe that these findings provide preliminary but sound empirical evidence of the way philosophers conceptualize their discipline, and that could be used in future research to guide various aspects of the design of software aimed at supporting philosophers.

Second, on another level the same results opened a number of methodological questions. For example, concerning the pro and cons of applying this type of KE experiment to a domain such as philosophy: quite interestingly, although card sorting has been successfully used in many scenarios, we found no record of its employment for the classification of 'abstract entities' of the like of philosophical ideas. Thus, can we really say that the card sorting technique is suitable and correct for the philosophical domain? If yes, on which basis? Furthermore, if we wanted to improve our experiment design, how should we refine the experiment setup so to get more precise results?

At the conference we will present our initial answers to such questions and a more extensive outline of the experiment results, with the hope to elucidate them further thanks to the listeners' feedback.

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