



Editorial

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1 The papers of this issue

This second issue of *Systems, Signs & Actions* contains two normal papers and a long paper.

1.1 Patterns as signs: a semiotics of object-oriented design patterns

The paper by James Noble, Robert Biddle and Ewan Tempero presents a semiotic analysis of design patterns. They view design patterns as signs that are used by programmers for building and interpreting programs and for communicating about their work. In a very original and innovative way, the paper combines the highly technical and specialized subject of programming with the much broader human activity of sign usage. The paper gives a well-founded and richly exemplified semiotic analysis of the form and contents of design patterns and, among other things, shows that phenomena like polysemy and synonymy are just as widespread in the technical discipline as in all other types of sign usage.

In addition, the paper contains an interesting discussion about the nature of computer-based signs. There is a strong tendency in object-oriented methodology to assume that object-oriented systems are iconic – they should be similar to the domain they refer to. However, the authors show that this is actually only partially true. Many design patterns do not bear any resemblance to the real-world objects they refer to, but are in fact purely symbolic.

The paper can be seen as a highly qualified attempt to soften the somewhat artificial boundary between the technical domain and the world of everyday life by showing that similar meaning-processes take place in both worlds.

This is an important task, since the tendency to locate technology and organisation in two separate worlds is as widespread as it is detrimental to development projects. A good example of this is given in the next paper by Casper Bruun Jensen.

1.2 Technologic: conceptualising health care transformation with the electronic patient record

Casper Bruun Jensen deals with the attempts to create electronic patient records. He takes his point of departure in the paradoxical situation that on the one hand there is an urgent need to improve the information systems of hospitals, but, on the other hand, the attempts to do so progress very slowly. What can be the reason for this? His empirical data are collected from a pilot project at Aarhus University Hospital and consists of documents produced by the project and interviews with the actors. Bruun

Jensen suggests that one of the explanations for the slow progress is a particular way of conceptualizing the relation between technology and organisation which he terms *technologic*. In this way of thinking, technology is viewed as an unproblematic way of improving conditions in an organization, and 'organization' is viewed as a supplement (a term borrowed from Derrida), that takes on an unruly and dangerous shape. As the project is faced with the practical problems of implementing the EPR system, this basic opposition is transformed in various ways, but the basic fault remains, namely the tendency to separate technology and organisation into two distinct worlds.

As a more realistic point of view, the paper recommends that technological projects should be seen as hybrid entities in which the technological and organisational elements are thoroughly intertwined and co-produced in often unpredictable ways.

1.3 Determination of business process types founded in transformation and coordination

Mikael Lind's paper addresses the problem of classifying business processes. The traditional distinction between core and support processes is difficult to define, so there is a need for more operational criteria.

Another aim is to define a framework that encompasses both the 'transformative' point of view where an input is transformed to an output with added value for the customer, and the communicative/coordinative point of view where business processes are analysed in terms of speech acts such as requests, commitments, and accepts. The LAP community has cultivated the latter at the expense of the former.

Lind uses a mail-order firm to show that businesses perform both types of processes. The result of the paper is a classification scheme that uses the type of the client and the type of the action to define three main kinds of business processes: *delivery processes*, *providing processes*, and *condition creating processes*.

If we compare the taxonomy to the problem raised by Bruun Jensen, we discover that Lind classifies technological innovation as a business process, namely as a *condition creating process* that results in procurement and development of instruments for production and distribution. In Lind's taxonomy, technological projects are not classified as something separate from the organisation, but rather as a variant of an ordinary business process.

Although Lind's taxonomy does not explicitly address technological innovation, it has the advantage that it places technological development in line with product development, assortment planning, design, and marketing. What unites these processes is that they create re-usable conditions for the business. This may be a first step towards planning technological development as any other organisational process, in particular with respect to a realistic allocation of resources.

A consequence of not doing this is the lack of realism we find in Bruun Jensen's case, where the fine visions of the regional implementation group of offering seven hours of training to the hospital staff vanished in thin air, when it was realized that the training would last three years, and that resources for replacing personnel at school were absent.