Distributed Agency, Social Roles and the Robot Sociologicus

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In our talk we will first explore the idea of distributed agency from a network of roles perspective. Second, we will introduce the concept of robot sociologicus. And third we will discuss consequences of these two concepts with respect to the question of the social position of social robots in real world situations of human robot interaction.

Agency, understood as the capacity to bring about meaningful actions or to take part in bringing about meaningful actions, can be analyzed as being distributed in two different ways: as being factually distributed or being distributed by attribution. An action that is conducted by using a technological artifact is factually distributed since the artifact's contribution is a meaningful part thereof (Schulz-Schaeffer 2007: 433ff.). Research in the sociology and history of technology has become increasingly sensitive for the factual distribution of agency between humans and artifacts. Referring to this strand of research we suggest to conceptualize sociotechnical constellations as networks of complementary roles. When the contributions of humans and artifacts to an emerging action intertwine effortlessly, the main reason usually is that they follow scripts, predefined sequences of behavior that fit into each other. To put it another way: The factual distribution of actions between humans and technological artifacts relies on predefined and more or less generalized expectations about the behavior of the parties involved, that is, on predefined roles. Though technological artifacts by being assigned particular roles factually take part in conducting actions, common sense seldom attributes agency to them. With social robots, however, this might be different.

In the emerging field of Social Robotics, social roles are suggested as one possible solution for the field's most challenging problem: reduction of the possibly infinite complexity of social situations. This is a problem that can hardly be handled by purely technical means. Thus roles on the interactional and the organizational level are proposed as parts of the robot's reasoning architecture (enabling the robot to appropriately recognize the situation at hand and to choose appropriate actions) and as an important part of the modelling of human-robot interaction, likewise. The notion of generalized expectations is at the center of actual sociological theory of action, which claims that human actors are able to handle social situations by applying these expectations – in the fast majority of situations no further reasoning is required. So it is quite astonishing that the sociological perspective is absent from the discussions in Social Robotics. If we simply fill in the different kinds of generalized expectations into the overall scheme of sociological theory of action (here: Hartmut Esser's theory of frame selection), the resulting picture is an architectural blueprint: the "robot sociologicus" (Meister 2014).

When humans behave according to generalized expectations they not only factually contribute to emerging sequences of activities but often are attributed agency accordingly. This occurs because the respective patterns of expectation include the assumption that the expected behavior presupposes and reflects agency. What happens, then, if technical artifacts – social robots – are designed to contribute according to generalized expectations that include such assumptions of agency?

References:

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