

Summary

An impossible turn? The participatory potential of science communication realized by science centers in the light of Niklas Luhmann's functionalist approach.

The work concerns science communication implemented through science centers in Poland and can be placed in the field of science and technology studies (STS).

Science communication connects many stakeholders, who are not only scientists themselves but also, among others, public authorities (at various levels), cultural activists, and education-related groups. In external forms, it can be realized through for example popular science magazines, science blogs, festivals, pop culture products, museums and science centers, or citizen science initiatives.

Organizing the relationship between science and society turns out to be especially important if one considers the social understanding of science as affecting the economy and security. The various analytical approaches for science communication can be generally divided into deficit and participatory models, where the former assumes a one-way transmission of completed expert findings to broad social groups, and the latter assumes a two-way relationship in line with the idea of democratizing science. Participatory forms are intended to enable active participation of citizens in directing and evaluating scientific and technological development.

The purpose of the dissertation is to reconstruct the main assumptions of the theoretical debate on the shape of science communication and to recognize the potential of science centers in this field as modern, comprehensive institutions with good organizational facilities. Through interviews with practitioners, observations and desk research, the study describes the contexts in which these institutions operate. To interpret the results, Niklas Luhmann's social systems theory was used to show the fundamental limitations in implementing participatory forms of science communication.

The key findings can be presented as follows. The deficit model of science communication is likely to always remain in use as the dominant one. This is because, in the Luhmann approach, it rises from the pattern of operation of the science system, which differentiates itself from the environment. This is reflected in the functioning of science centers, which, while responding to the need for broad accessibility, paradoxically undermines the participatory potential in science communication realized by these institutions. The entertaining profile of these institutions determines a specific approach to presenting scientific issues as closed and free of uncertainty. It therefore provides very limited opportunities to produce meaningful and readable signals for science from the environment in the terms understood by Luhmann.

Niklas Luhmann's theory makes it possible to understand the pattern of science-society relations also in other forms of organized science communication and probably find that the distancing deficit model is difficult to overcome.