

# Computational Tool for Intergroup Emotion Modeling

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## Introduction

The present work proposed to conceive a system generating situations which could elicit intergroup emotions within individuals identifying with a social group. The aim of such a system is to help in elaborating efficient persuasive messages like in marketing domain or military domain. This poster presents firstly the strong theoretical background, including the intergroup emotion theory, the appraisal theory, the social identity approach and the Conceptual Dependency Theory. Secondly, it exposes the overall structure of the proposed model. Thirdly, all components of the system. Inputs and output modeling and also complementary independent components.

## Theoretical Background

- APPRAISAL THEORY (SCHERER, 2001)
  - Social extension
- INTERGROUP EMOTION THEORY (Garcia-Prieto & Scherer, 2005)
  - Intergroup emotion dimensions
- SOCIAL IDENTITY APPROACH: Social Identity Theory (Tajfel & Turner, 1977) ; Self-categorization Theory (Turner, 1987)
  - Salience of a social identity
- CONCEPTUAL DEPENDENCY THEORY (Schank & Abelson, 1975)
  - Primitive actions
  - Cultural Scripts

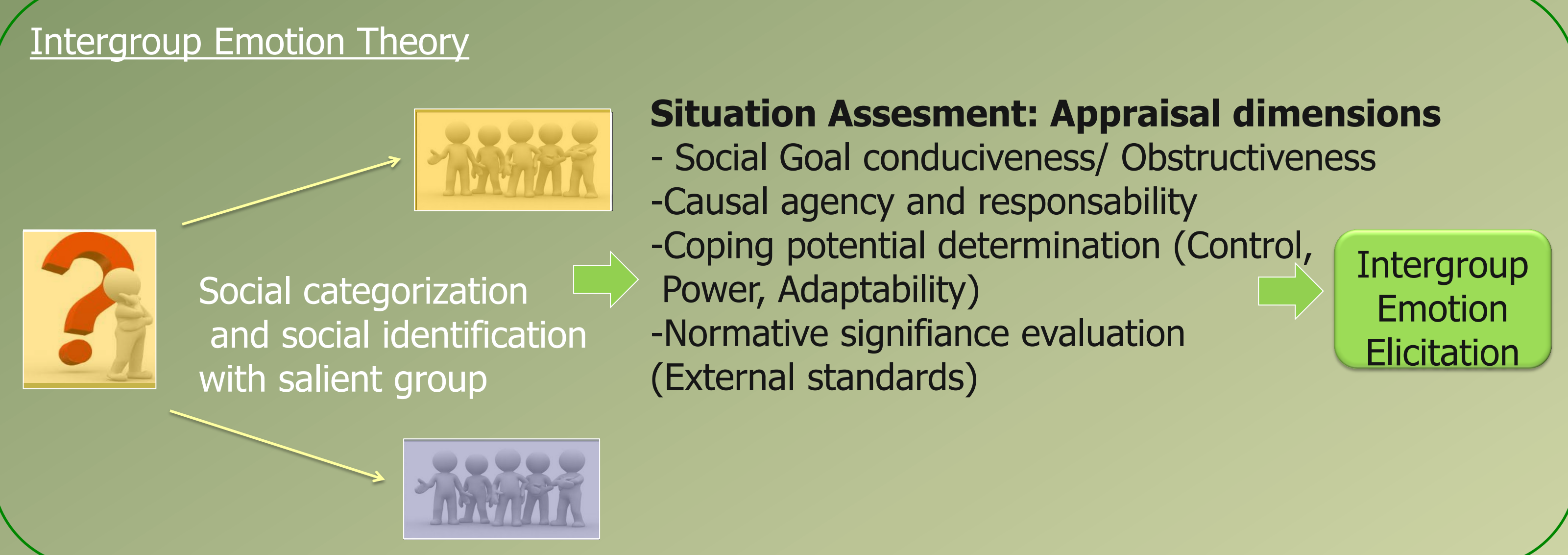
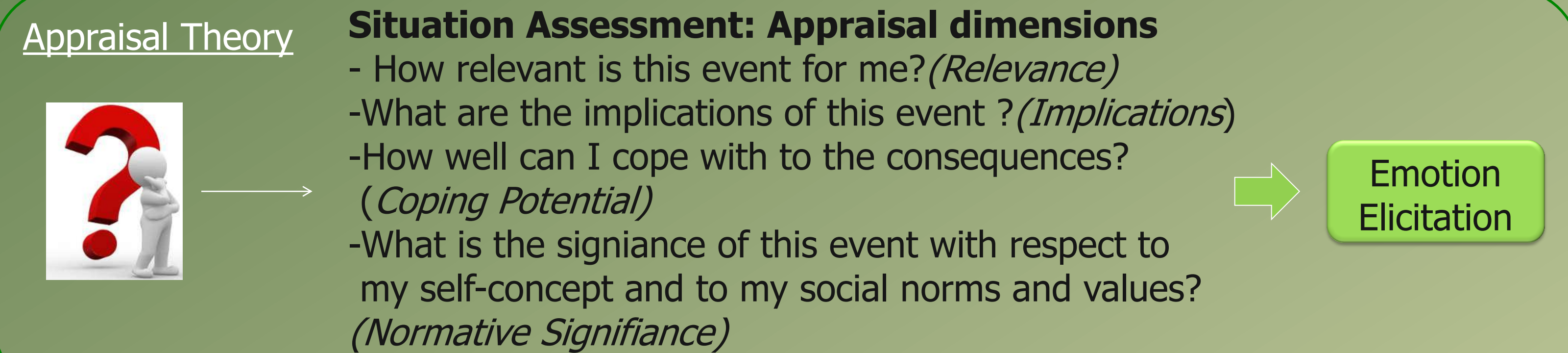


Fig. 1. Emotion elicitation mechanism in the interpersonal context (Appraisal theory) and in intergroup context (Intergroup Emotion theory).

## Proposed Model

System inputs contains two social groups and an intergroup emotion, requested by the user. One of the social groups, the social reference group, feels the intergroup emotion directed toward the aim-group. System output is a situation divided in two steps. Step 1: Categorization step, ensures social categorization and social identification with the social reference group. Step 2: Action step is responsible for the intergroup emotion elicitation and differentiation.

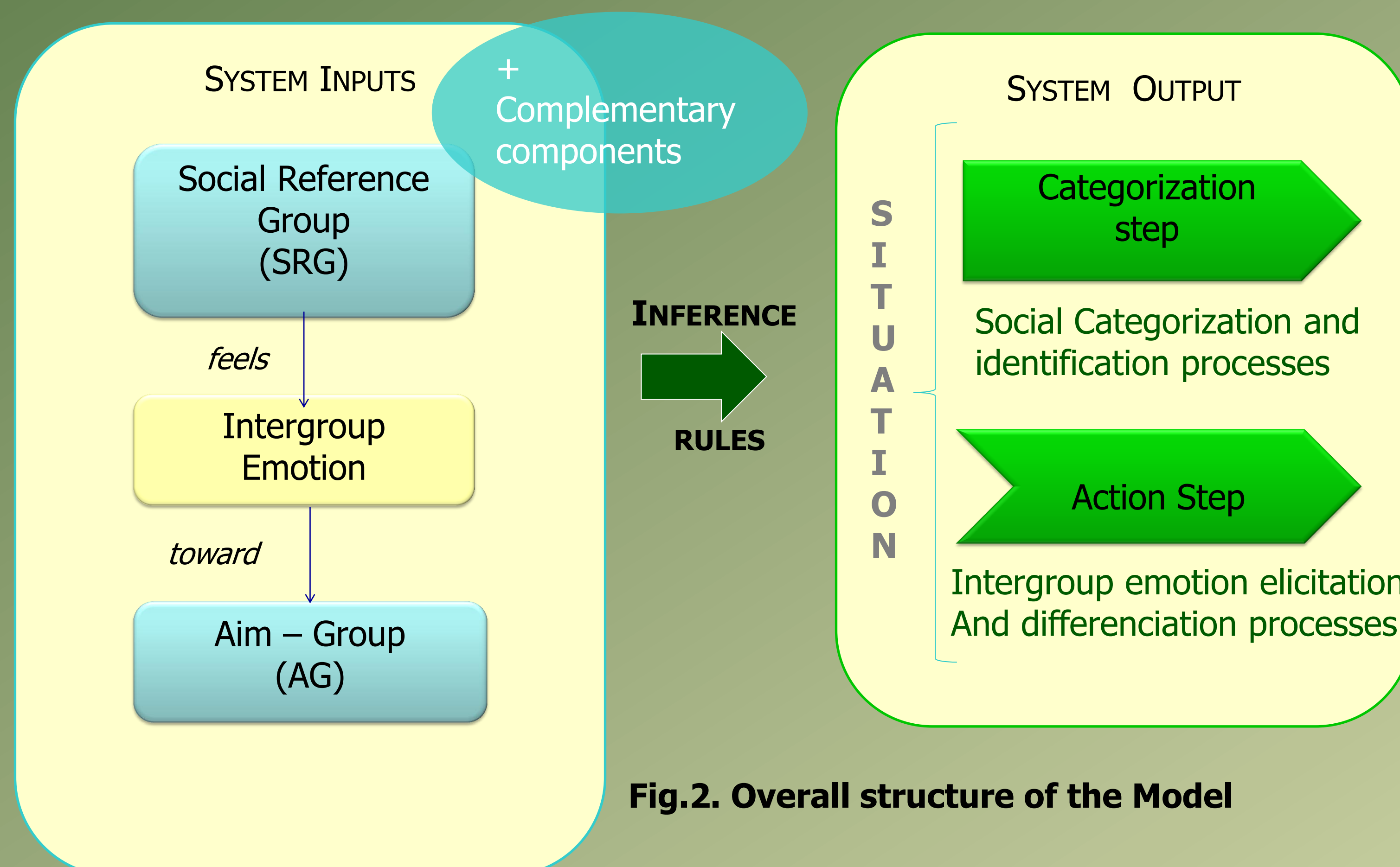
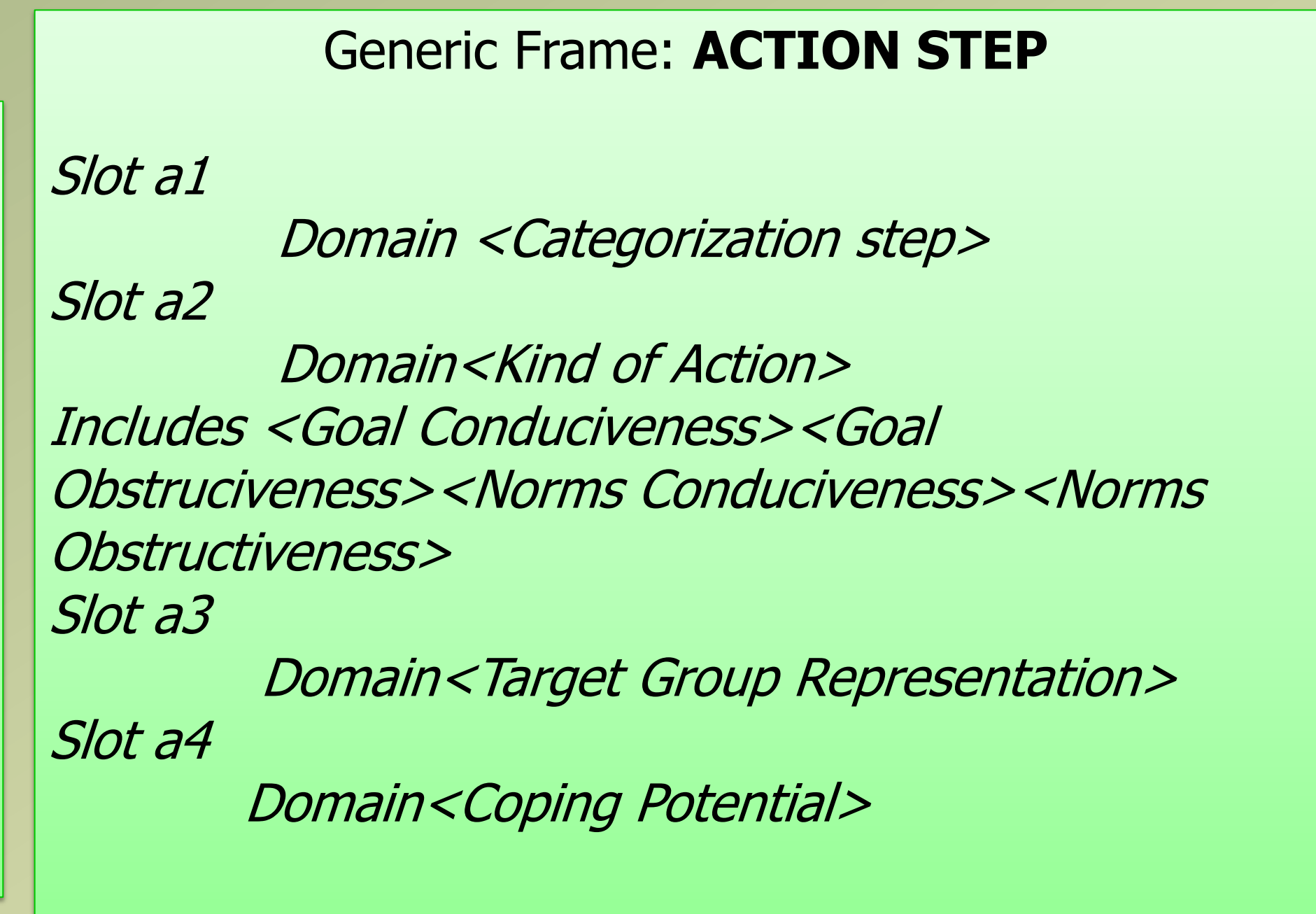
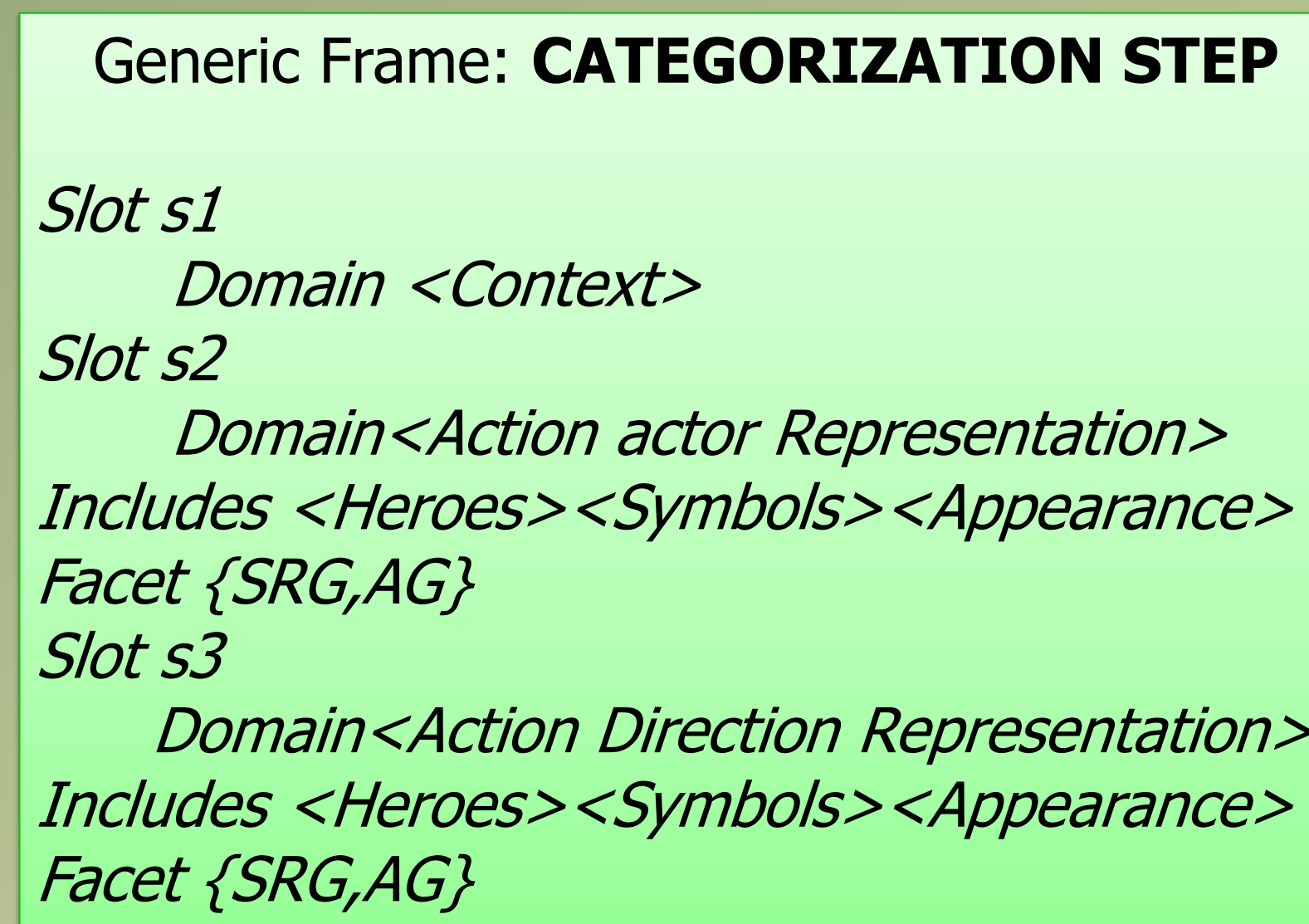
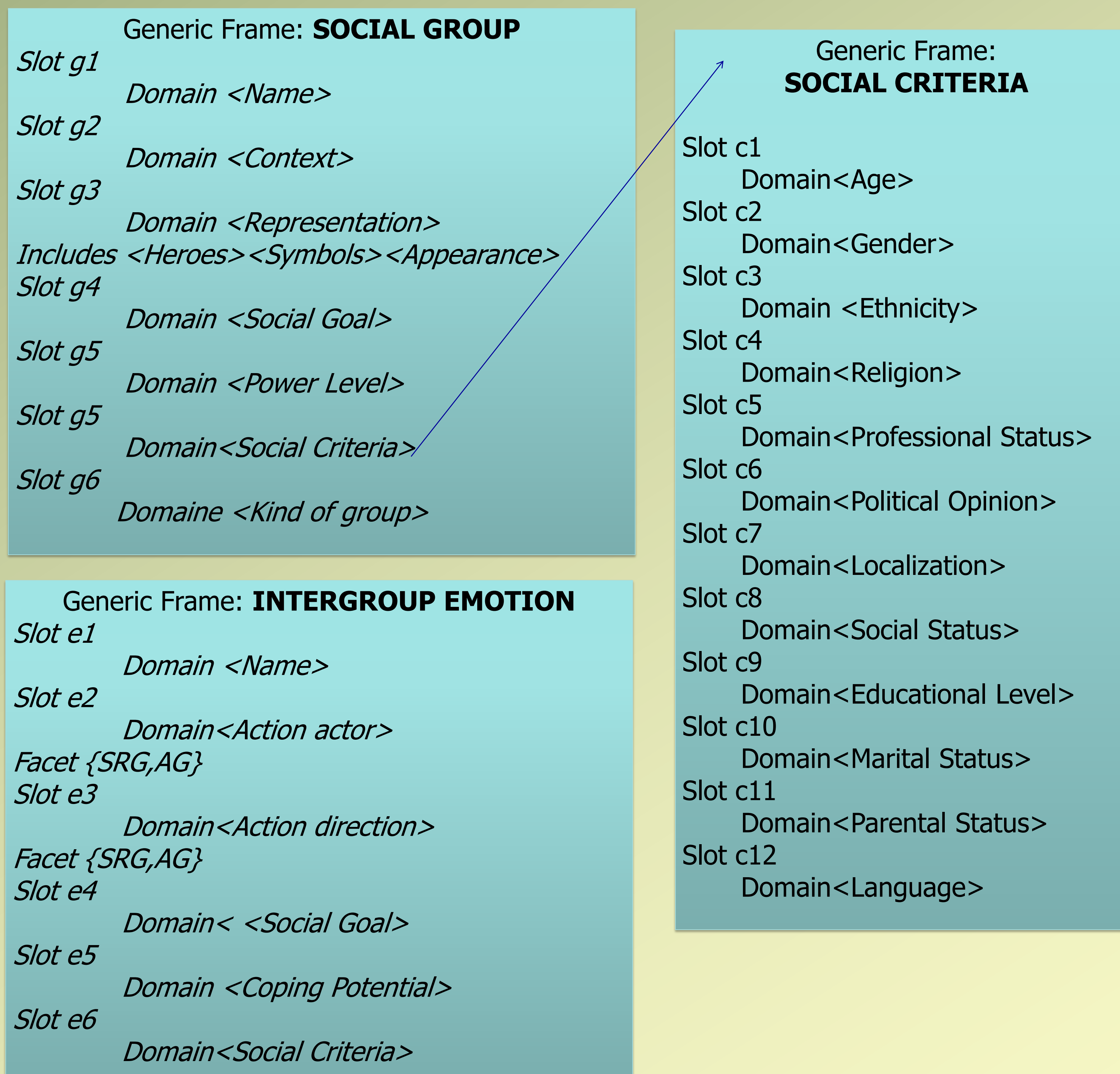


Fig.2. Overall structure of the Model

## Inputs and Output Modeling

Inputs and output system are modeled within a frame-based representation. Inputs system are social group, social identities and intergroup emotion.



## Complementary Components

Some additional components are added independently of the system as a data-base to store emotional and cultural knowledge.

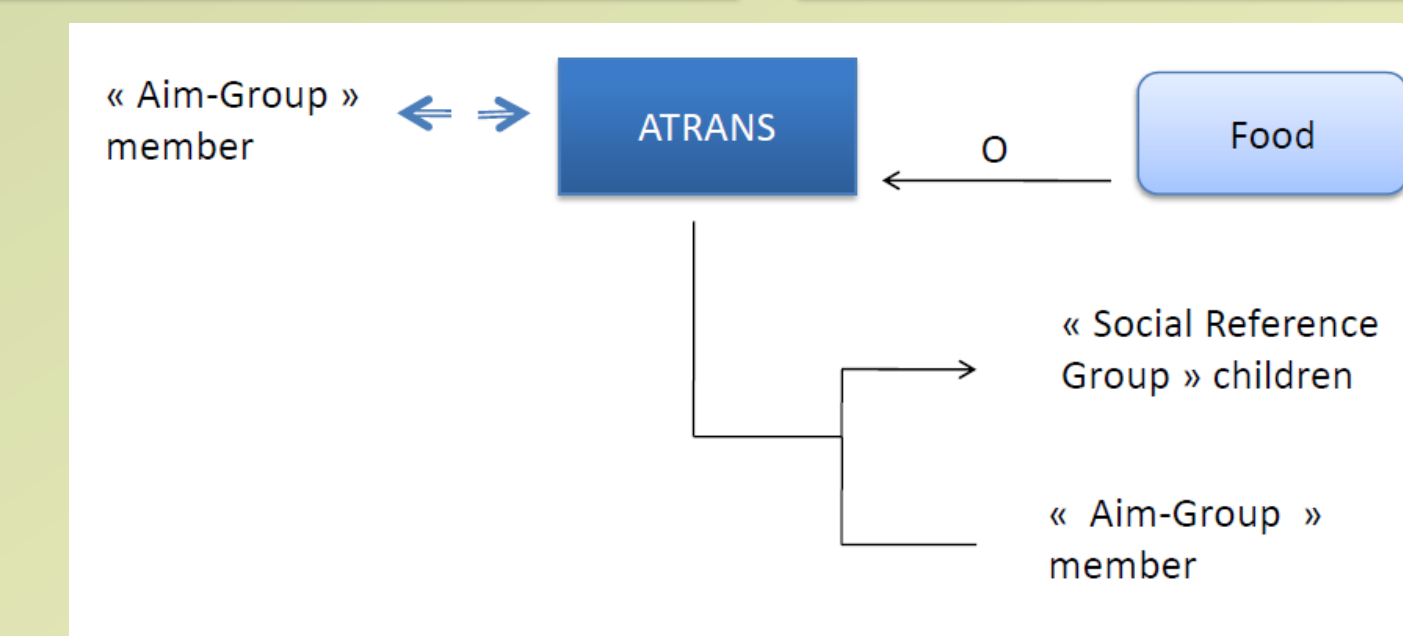
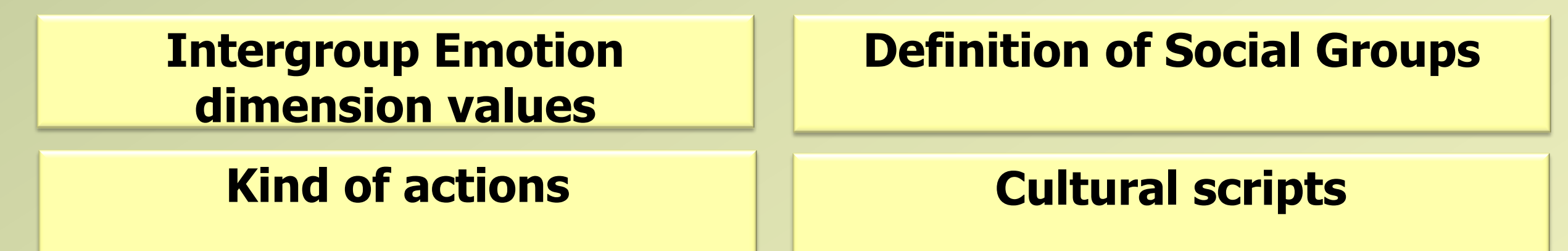


Fig.3 Conceptualization of the sentence « Aim-group member gives food to Social Reference Group Children » within the Conceptual Dependency Theory.

## Example of Algorithm

```

Algorithm 1: Define <SRG Representation>
def SRGRepresentation_EtapeCategorisation ():
if n1_SocialIdentitySRG ≠ 0 then
  <SRGRepresentation> ← Facet < Appearance >;
else
  if n2_SocialIdentitySRG ≠ 0 then
    <SRGRepresentation> ← Facet < Symbol >;
  else
    if n3_SocialIdentitySRG ≠ 0 then
      <SRGRepresentation> ← Facet < Heroe >
    end
  ;
end
end
    
```

Fig.4. Definition of the Social Reference Group Representation (SRG) in the Categorization step.

## Conclusion and Future work

The present work describes a new approach for emotion modeling in intergroup contexts. It lies on a strong theoretical background stemming from psychological domain driving the proposed model.

The system will be modelized within an ontology editor: Protégé.

To validate such a model empirically, the intended working method is to submit a questionnaire with situations provided by the output system to social group members. The comparison between people's emotional responses and intergroup emotion requested as input will determine reliability of the system.