EXPLOITATIVE AND FAMILIARITY-DEPENDENT SUPPORT STRATEGIES IN A COLONY OF SEMI-FREE LIVING CHIMPANZEEs

by

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I. INTRODUCTION

There are many different ways in which a third chimpanzee can affect the course and outcome of a conflict between two conspecifics. The most direct way to do so is by intervening violently. However, there is also a variety of non-violent ways of interfering, varying from rather agonistic activities like 'barking' or 'screaming' from a distance or 'bluffing' around the two opponents, to non-agonistic acts like 'embracing' one of them, standing between the two or just approaching and looking at them. The influence which these behaviours may have depends on the social position of the performer and especially on its social relationships with the two opponents. The influence of non-violent acts by a third animal certainly is based to a great extent on knowledge of each opponent of: 1) the chance — given a certain intensity of the conflict and given the kind of behaviour shown by the third animal — that this particular third individual will proceed to an overt aggressive intervention and 2) the most likely direction this action will take.

Our study attempts to discover general rules as they are expressed in particular triadic interventions. In order to do this, we look at social events in the group from the viewpoints of particular group members, considering

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how each individual makes its overt aggressive interventions in the conflicts that occur. This distribution of interventions over the group members is of considerable theoretical interest in connection with the fact that many instances of intervention can be regarded as acts of altruism.

1. Triadic phenomena.

Recently, long after the pioneering work by Kummer (1957, 1967) and Kawai (1958), interest in triadic phenomena in primates started to grow rapidly. Triadic phenomena are phenomena occurring at the level of dyadic interaction, which can be explained only by the relations (or direct interactions) of the two partners with third individuals and the relations among these third ones themselves. Examples of triadic phenomena are 'dependent rank' (see below) and 'triadic differentiation', which has been defined as follows: "When three individuals are convened, some of their dyadic relationships gain in intensity while the others are weakened" (Kummer et al., 1974, p. 84).

Recent studies exploring the triadic level of primate social organization are: Kummer et al. (1974); Anderson & Mason (1974); Simpson (1973) and De Waal (1977). Just as the study of communication requires a list with exact definitions of the communicative patterns of a species (the social ethogram) the success of systematic studies on triadic phenomena stands or falls with the exact definition of types of interaction (i.e. the different combinations of roles played by the three or more participants in an interaction). Definitions of types of triadic and polyadic agonistic interactions like 'support', 'alliances', 'protection', etc. have been provided by De Waal et al. (1976) for Java-monkeys (Macaca fascicularis). In chimpanzees (Pan troglodytes) there occur several different types of intervention in conflicts and I will spend a relatively long text to the exact operational definition of the types to be analysed here (section III).

It should be noted that triadic interactions are not restricted to primate species. Similar interactions can be observed, for instance, among groupliving birds (jackdaw, goose) and carnivores (lion, hyena, wolf).

The existence of triadic phenomena in primates has been noticed by many investigators. For the first time by Bierens de Haan (1929). He gives a detailed description of the way his own dominance relation with a monkey depended on the presence of the monkey-keeper. "... the animal took courage from the fact that this higher authority was near him ..." (p. 61).

Van Lawick-Goodall (1968) observed in wild adult male chimpanzees that their dominance relations depended on which other individuals were present. She states (p. 212): "The reasons underlying these fluctuations in social