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SELECTED ABSTRACTS OF PAPERS PRESENTED AT THE FIRST EUROPEAN MEETING ON THE EXPERIMENTAL ANALYSIS OF BEHAVIOUR

University of Liège, Belgium
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This four-day international conference covered a wide range of topics in the experimental analysis of behaviour. Four symposia, consisting of invited papers and critical reviews by discussants, dealt with the relationship between ethology and behavioural psychology, the determinants of human operant behaviour, clinical behaviour modification, and behavioural pharmacology.

There were also more than fifty volunteer oral presentations and nearly one hundred volunteer posters. The authors of the volunteer contributions were invited to submit abstracts of their papers for publication in *Behavioural Processes/Behaviour Analysis Letters*. Not all the authors wished to do so. In some cases, for instance, the topic of the paper was clearly outside the scope of this journal. In other cases, the authors were already in the process of preparing a full-length paper describing their work (some of these papers have been submitted to *BP/BAL*. The submitted abstracts were subjected to the usual process of review by two referees.

THE TEMPORAL REGULATION OF BEHAVIOUR: A COMPARATIVE APPROACH.

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Cross-species comparisons of timing behaviour and time estimation in animals are a first step toward a description of timing capacities across the animal kingdom.The results must be discussed in relation to three main hypotheses: (a) The evolutionary hypothesis,according to which the capacities for the temporal regulation of behaviour would parallel in refinement and complexity the increased structural and functional complexity of the central nervous system; (b) The reductionist hypothesis considering the capacity for temporal regulation of behaviour as a primitive and equally distributed mechanism;(c) The ethological hypothesis relating the animals' capacities to their particular behavioural repertoire.In our laboratory,subjects from a dozen species,including species rarely used (fish,water turtles,hapalemurs)have been submitted to experimental conditions suited for the analysis of the temporal regulation of behaviour,namely Fixed Interval schedules up to 600 seconds,Differential Reinforcement of Low Rates schedules up to 60 seconds (1).To avoid premature generalization,three experimental strategies have been followed.First,the compa-

rison of species situated at different levels on the phyletic scale (for example fish and mammals).Second,comparison between closely related species (pigeon versus turtle doves,selected laboratory mice versus wood mice).Third,comparison between performances obtained with two different responses (keypecking vs treadle pressing or perch sitting) within the same species (pigeons or turtle doves).The results up to now,besides suggesting an evolutionary trend in timing capacity (reptiles-fish-birds-mammals),illustrate the great difficulty in appraising the timing competence of animal species and invite caution before any particular performance can be taken as a fair estimate of an organism's competence.Experimenters have to look for "species fair tests" that reveal the best performance an organism can produce in a given situation.Beside the above mentioned variables,the stimuli of the experimental situation,motivational states,the nature of the reinforcer and the metabolic processes of a species deserve careful investigation before interpretations of the timing capacities can be proposed.Finally,special attention must be given to the specific constraints on the delay variable under study.Experimenters should match the temporal parameters studied to the species' natural behavioural periodicities, besides studying arbitrary delays,intervals or stimulus durations.

1.Richelle,M. and Lejeune,H.,Time in Animal Behaviour,Pergamon,1980.

NOTE ON INTER-INDIVIDUAL DIFFERENCES IN FIXED INTERVAL PERFORMANCE IN RATS: A LARGE GROUP STUDY (N=113).

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No systematic analysis of inter-individual differences in the temporal regulation of behaviour has been undertaken until now. The inter-individual differences in Fixed Interval performance raise two questions. First, how do individual results distribute during successive stages of the learning process.Second, do individuals rank similarly at different stages of their exposure to the FI schedule. After shaping (lever pressing reinforced with food pellets),113 male adult Wistar albino rats were submitted successively to 3 Continuous reinforcement ,3 FI30,3 FI60,3 FI90 and 40 FI120 seconds sessions. Each session lasted 30 minutes. Performance was estimated with the Index of Curvature (I). The daily frequency distributions of the Curvature Index values showed that these indices were distribued in a nonrandom manner.Due to class fineness (.025), the distributions were often multimodal but they fit globally within a bell shaped