

THE VERSATILITY OF WATER AS A PLAY MEDIUM FOR MONKEYS OF ALL AGES

**Peggy O'Neill Wagner
NICHD, NIH Animal Center
Poolesville, Maryland**

Gordon Burghardt's Formula for Recognizing Animal Play

The Genesis of Animal Play: Testing the Limits (2005)

Five Criteria for Recognizing Play:

- 1-The performance of the behavior is not fully functional in the form or context in which it is expressed; that is, it includes elements, or is directed toward stimuli, that do not contribute to current survival.
- 2-The behavior is spontaneous, voluntary, intentional, pleasurable, rewarding, reinforcing, or 'done for it's own sake'.
- 3-The behavior differs from the "serious" performance of ethotypic behavior, structurally or temporally in at least one respect: it is incomplete (generally through inhibited or dropped final elements), exaggerated, awkward, or precocious; or it involves behavior patterns with modified form, sequencing, or targeting.
- 4-The behavior is performed repeatedly in a similar, but not rigidly stereotyped, form during at least a portion of the animal's ontogeny.
- 5-The behavior is initiated when an animal is adequately fed, healthy, and free from stress, or intense competing systems (e.g. feeding mating, predator, avoidance). In other words the animal is in a "relaxed field"

All five criteria must be met in a least one respect before the play label can be confidently attached to any specific instance of behavior.

Summarized by Burghardt:

Play is repeated, incompletely functional behavior differing from more serious versions structurally, contextually, or ontogenetically, and initiated voluntarily when the animal is in a relaxed and low-stress setting.

My interpretation:

Spontaneous, voluntary, pleasurable (self-rewarding) , exaggerated, awkward, precocious, and repetitious behaviors lacking seriousness and engaged in by healthy, well fed, and non stressed animals.

Considerations when applying the criteria:

“Unfortunately many descriptions are difficult to interpret because information that would enable us to apply the five criteria is absent”....

....“Eventually, as more is learned about the genetic, neural, and hormonal correlates of play, the criteria will be refined”

Five Criteria Link the Forms of Animal Play

Locomotor

Object

Social

Four Important Processes Underlying Play

- 1-Sufficient metabolic energy for sustained vigorous activity**
- 2-Animals are buffered from serious stress and food shortages**
- 3-A need for stimulation to elicit species typical behavioral systems (e.g. there is susceptibility to boredom)**
- 4-A lifestyle that involves complex sequences of behavior in varying conditions, including diverse and unpredictable environmental and/or social resources.**

**Characteristics of the NICHD Study Troop and
the Environment Attractive to Play Research**

**(Surplus Resource Model of Play, Burghardt,
2005)**

Species-typical social environment

All age groups are present in species typical matriline

Family groups, peer groups, sibling availability

Six generations, Parental rearing condition, known kin histories

Primate subjects with long juvenile period known to require extensive stimulation

Primate subjects require parental care requiring extended periods of experience and learning prior to independence

Adult behavior is typically very different from juvenile behavior

Relaxed physical environment expected to increase playfulness

Minimal food, water, and predator stress

Nutritious and ample provisioned diet

Considerable space and habitat diversity

Equitable climate for the species

Expectations for water-related activity:

(Surplus resource theory model, Burghardt, 2005)

ENERGETICS:

Most active swimming and diving will involve young juvenile monkeys due to their higher metabolic rate (tolerance of greater temperature range), considerable aerobic capacity, and social state (not engaged in producing, nursing, caring for offspring).

ONTOGENY:

Adult behavior will be very different from juveniles, typical of the species. Experience. Learning, and practice will be required.

ECOLOGY:

Given low predation and equitable climate, as well as provisioned food resources, the play will be complex and variable similar to functional behaviors such as highly adaptable foraging behavior.

PSYCHOLOGY/SOCIOLOGY:

Given a high need for stimulation and availability of peer groups the play will be frequent and diverse if water serves as a highly motivating resource.