

MOTOR LEARNING (BELAJAR GERAK)



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Motor skills can be classified into general categories

(Klasifikasi Umum Keterampilan Motorik)

- ◆ Skill
 - Skill sebagai aktivitas
 - Skill sebagai indikator kualitas kinerja
- ◆ Action
- ◆ Ability



Motor skills can be classified into general categories

- ◆ Gross motor skill (Ketrampilan gerak kasar)
- ◆ Fine motor skill (ketrampilan gerak halus)
- ◆ Discrete motor skill (ketrampilan gerak terputus-putus)
- ◆ Serial motor skill (keterampilan gerak serial)
- ◆ Continuous motor skill (keterampilan gerak kontinyus)



Motor skills can be classified into general categories

- ◆ Closed motor skill
(keterampilan gerak tertutup)
- ◆ Open motor skill
(keterampilan gerak terbuka)



Motor Skill Classification Systems (Sistem Klasifikasi Keterampilan Gerak)

- ◆ Precision of Movement (Ketepatan Gerak):
 - Gross motor skill
 - Fine motor skill
- ◆ Defining the Beginning and End Points (awal dan akhir gerakan) :
 - Discrete motor skill
 - Serial motor skill
 - Continous motor skill
- ◆ Stability of the Environment (Stabilitas Lingkungan):
 - Closed motor skill
 - Open motor skill



A Four Category Classification System

(the four category classification system presented by Gentile, Higgins, Miller, and Rossen)

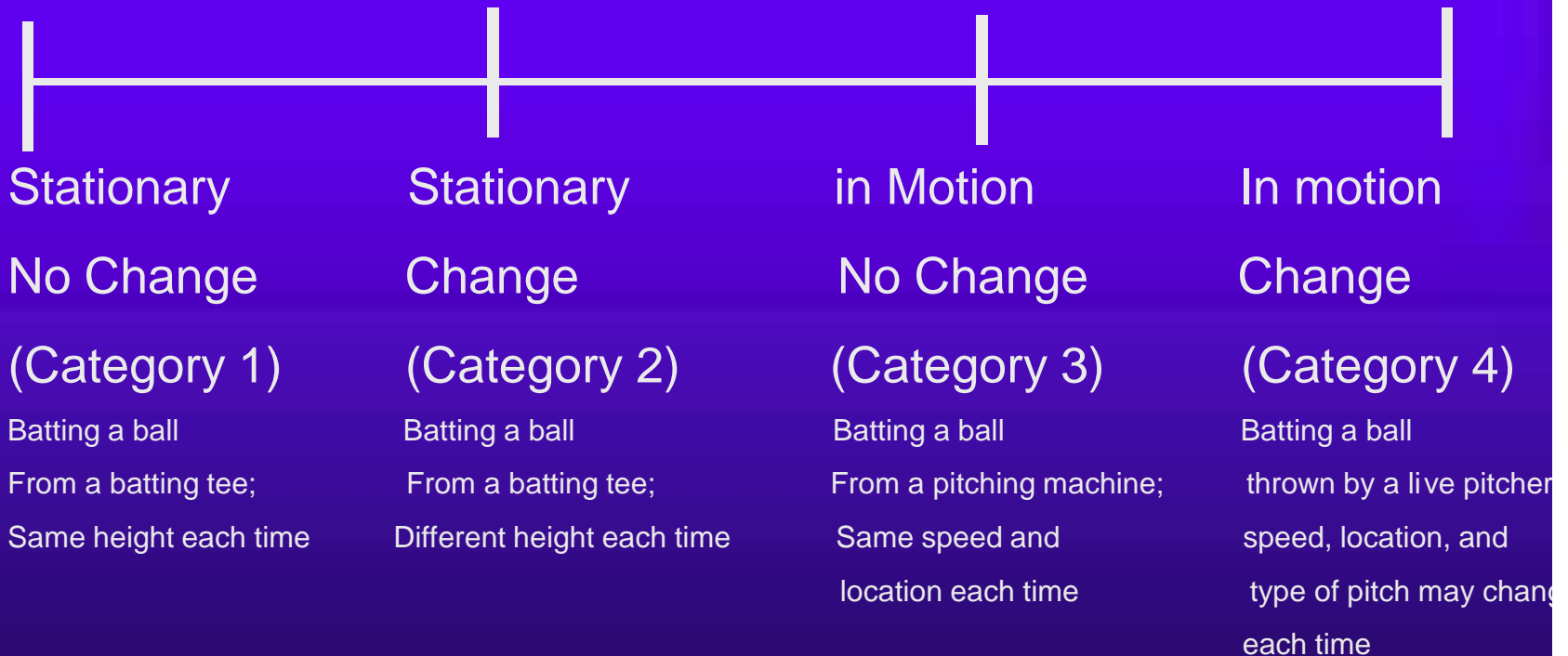


		Response to Response Variability	
		No Change	Change
Environmental Conditions	Stationary	Category 1 The object of the response remains stationary, and there is no change in response requirements from one response to the next	Category 3 The object of the response remains stationary, and the response requirements from one response to the next
	In Motion	Category 2 The object of the response is in motion, and there is no change in the response requirements from one response to the next	Category 4 The object of the response is in motion, and the response requirements from one response to the next

The four categories system placed on a continuum

Closed skills

Open skills



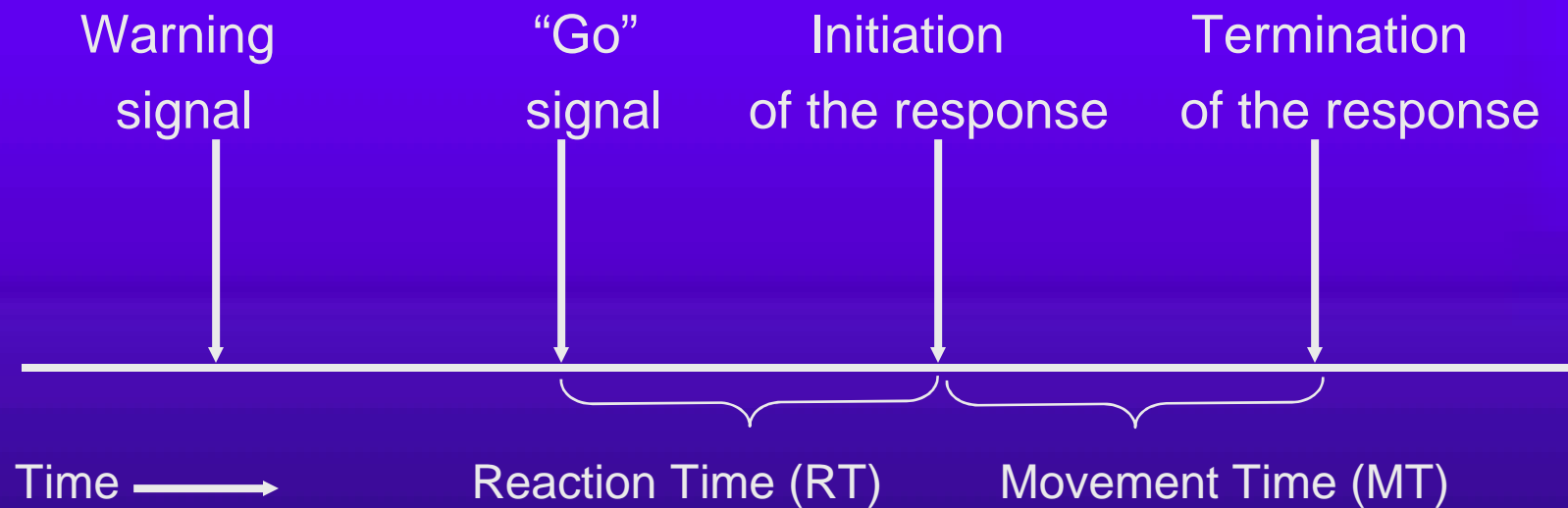


The Measurement of a motor performance is a critical part of understanding motor learning

- ◆ Reaction time (RT)
- ◆ Movement time (MT)
- ◆ Response time (RT)
- ◆ Constant error (CE)
- ◆ Absolute error (AE)
- ◆ Variable error (VE)



The events and time interval related to the typical measurement of reaction time (RT) and movement time (MT)





The Measurement of a motor performance is a critical part of understanding motor learning

- ◆ **Movement Time**
- ◆ **Response Time**
- ◆ **Error Measures**
- ◆ **Tracking performance Error**
 - ◆ **Kinematic Measures**



LEARNING CAN BE INFERRED FROM: (BELAJAR DIPEROLEH MELALUI)

- ◆ PRACTICE OBSERVATIONS
(Pengamatan Praktis)
- ◆ RETENTION TESTS
(Tes Retensi)
- ◆ TRANSFER TESTS
(Tes Transfer)

The learning of a motor skill occurs in stages

(Tahapan Belajar keterampilan Gerak)

Fitts and Posner:

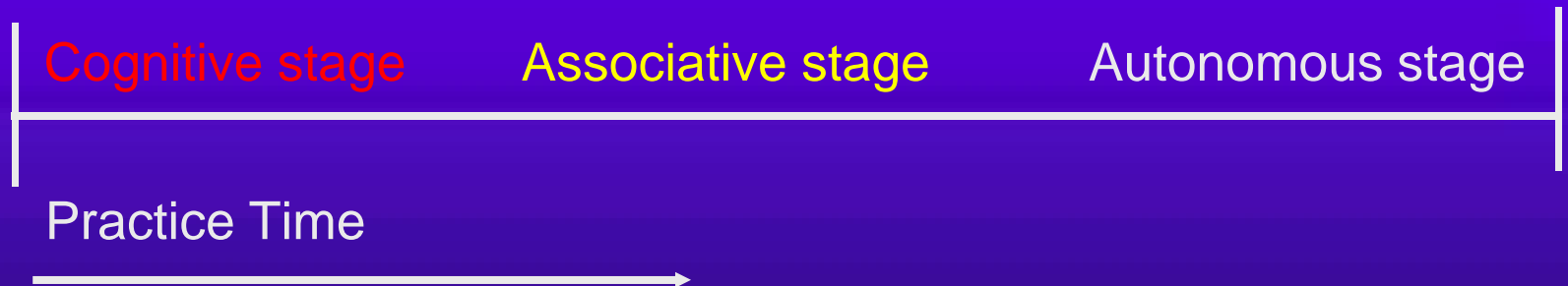
- ◆ Cognitive Stage (Tahap Kognitif)
- ◆ Associative Stage (Tahap Asosiatif)
- ◆ Autonomous Stage (Tahap Otonomus)

Adam Model

Gentile Model



The stage of learning from Fitts and Posner





TRANSFER LEARNING

- ◆ Transfer of learning
 - ◆ Positive transfer
 - ◆ Negative transfer
 - ◆ Intertask transfer
 - ◆ Intratask transfer



TRANSFER of LEARNING

The influence of having previously practiced a skill or skills on learning of a new skill or on performing the skill in new context

BELAJAR GERAK STIMULUS-RESPONSE

ADA STIMULUS
(Rangsang)

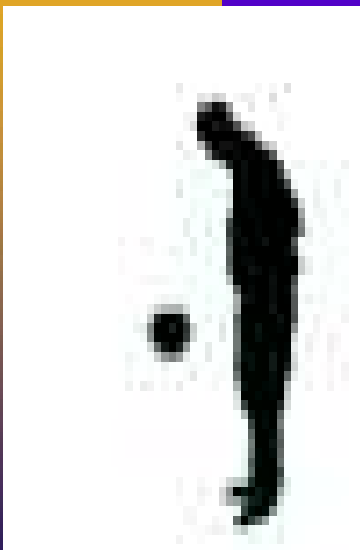
MATA

SISTEM SYARAF

OTAK
OTOT
TULANG

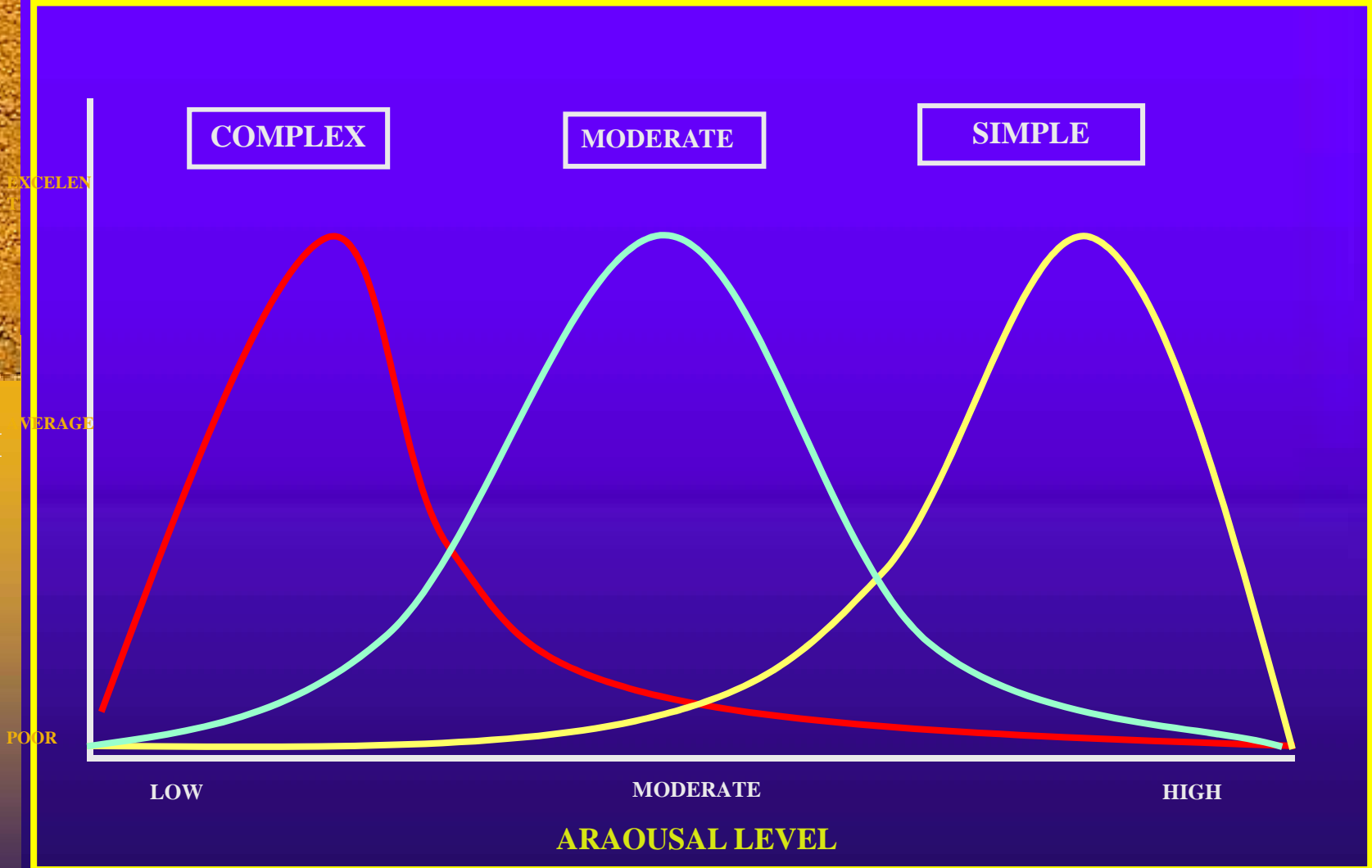
GERAKAN

RESPONS



HUBUNGAN KEINGINAN DAN KINERJA

P
E
R
F
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M
A
N
C
E





MOTOR MEMORY

MOTOR MEMORY:

According to science, a specific skill improves with a simple process, it was called Motor Memory.

You must practice the intended skill repeatedly.

After thousands and thousands of repetitions, of course, each repetition is done with perfect technique; its specific movement pattern becomes firmly ingrained in individuals motor memory.

After many weeks and possibly months of painstaking practice, the skill becomes highly organized and well developed and becomes automatic.

Dimensi Potensi Bawaan



Dimensi Kejiwaan/ Psikis



Dimensi Keragaan / Jasmani



Dimensi Kejiwaan/ Psikis



- ◆ Intelektual
- ◆ Emosional
- ◆ Mental
- ◆ Sosial
 - Intra & Inter Personal
 - Moral
 - Spiritual
 - Natural



Dimensi Keragaan / Jasmani

- ⇒ Kekuatan
- ⇒ Ketahanan
- ⇒ Kecepatan
- ⇒ Daya Ledak
- ⇒ Koordinasi
- ⇒ Kelincahan
- ⇒ Keseimbangan
- ⇒ Ketepatan
- ⇒ Kelenturan
- ⇒ Kecepatan Reaksi



Kesiapan otot melakukan gerakan yang lebih cepat dan kompleks memerlukan persiapan atau warming up yang sesuai dengan karakter gerakan yang akan dilakukan





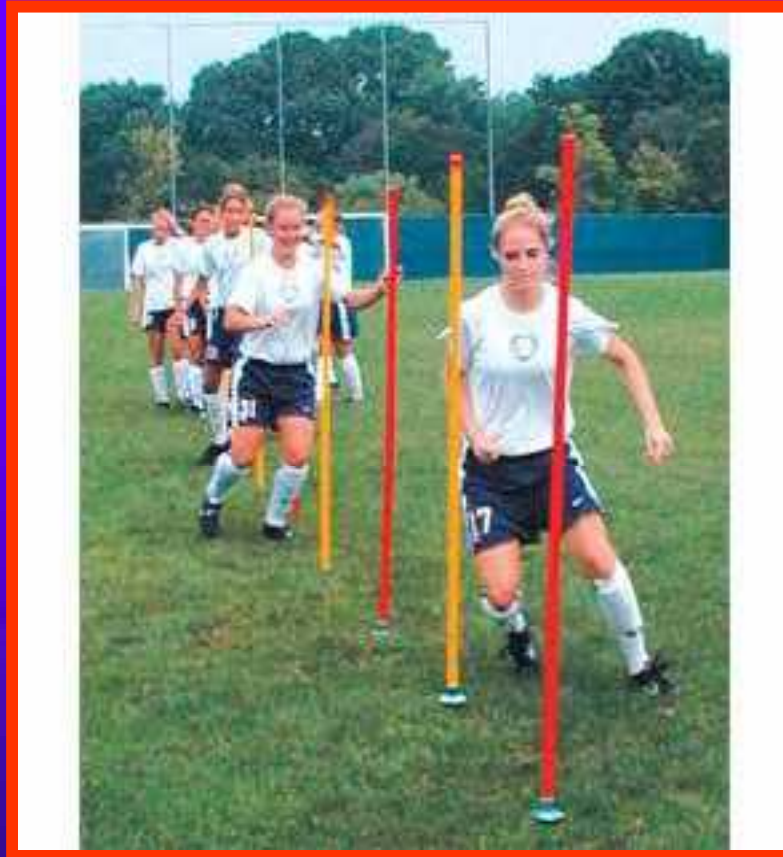
GERAKAN-GERAKAN SEPAKBOLA

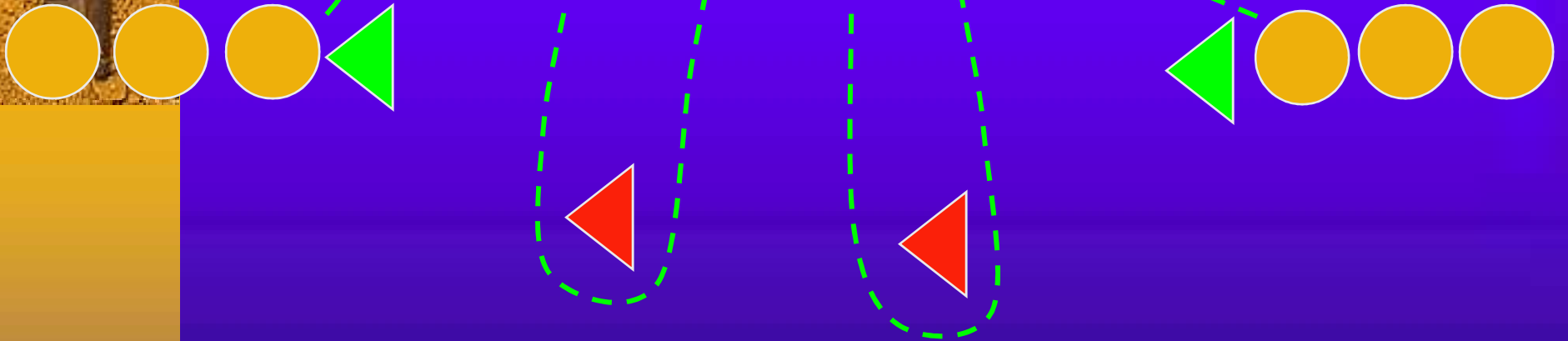


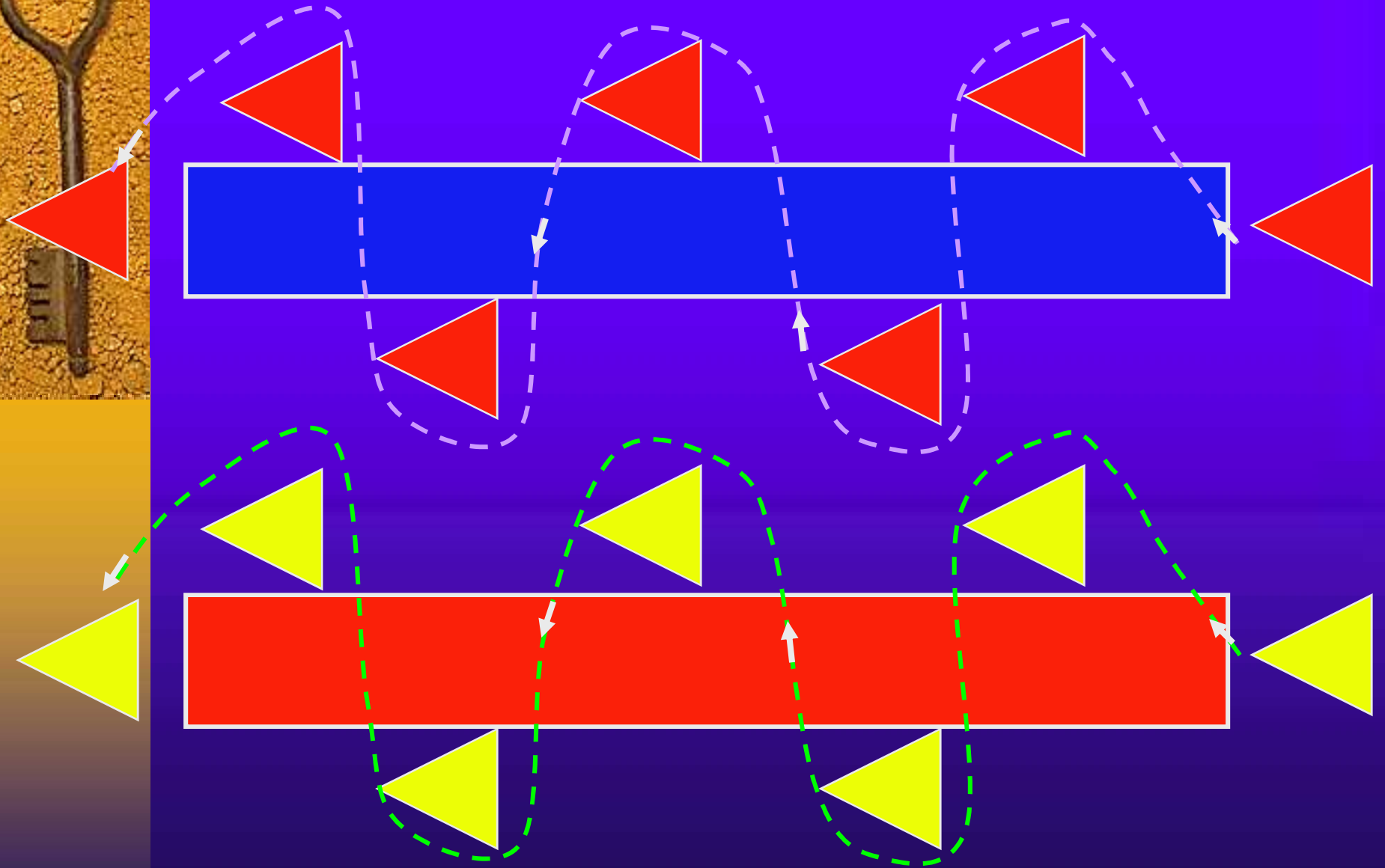
GERAKAN TACKLING



KECEPATAN, KELINCAHAN DAN KOORDINASI









**SEKIAN
TERIMA KASIH**