I - TRADITIONAL KARATE
KIME (Explosive Attack)

1. CORRECT APPLICATION OF POWER
2. SPEED OF TECHNIQUE
3. BODY EXPANSION AND CONTRACTION
4. KI (ENERGY, FOCUS)

II - PHYSICS

1. SYSTEM IN EQUILIBRIUM:
   a. Energy is not created nor destroyed (without work input)
   b. Energy is thus transformed or dissipated from work input

2. MOMENTUM IS A CONSERVED QUANTITY (P=MV, F=P/t)
   a. Large force in a small amount of time will equate same momentum as a small force over long time but sudden energy transfer (large F) can yield to deformation

3. LAWS OF PHYSICS DESCRIBE FORCE, MOMENTUM AND DEFORMATION ENERGY PER UNIT AREA
   a. Therefore the smallest target area yields the biggest impact

4. LAW OF MOTION
   a. For every action there is an equal and opposite reaction.

III - OPTIMAL ENERGY TRANSFER IN KARATE

- Execute technique with KIME leads to the highest energy level
- Body connection increases mass of strike – includes part of the arm
- Weight of karateka is not as critical as that of the effective mass of the punch or strike
- Two knuckle punch yields higher impact to given area (N/SQ M)
- Speed is critical, square of speed affects energy yield \( E = \frac{1}{2} mv^2 \)
- Highest speed is at 75% of arm extension => must focus fist past target

ROKUDAN E3SSAY: MARC BOISMENU
## Gitustu yori shinjutsu

“Spirit and mind are more important than technique”

### Notes:

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