Q P

Q_A

P_A

$P_B Q_B$

Q_L

P_L

Q_C P_C

P_R Q_R

**Relationship of points P and Q _changes_ as cameras move around it.**
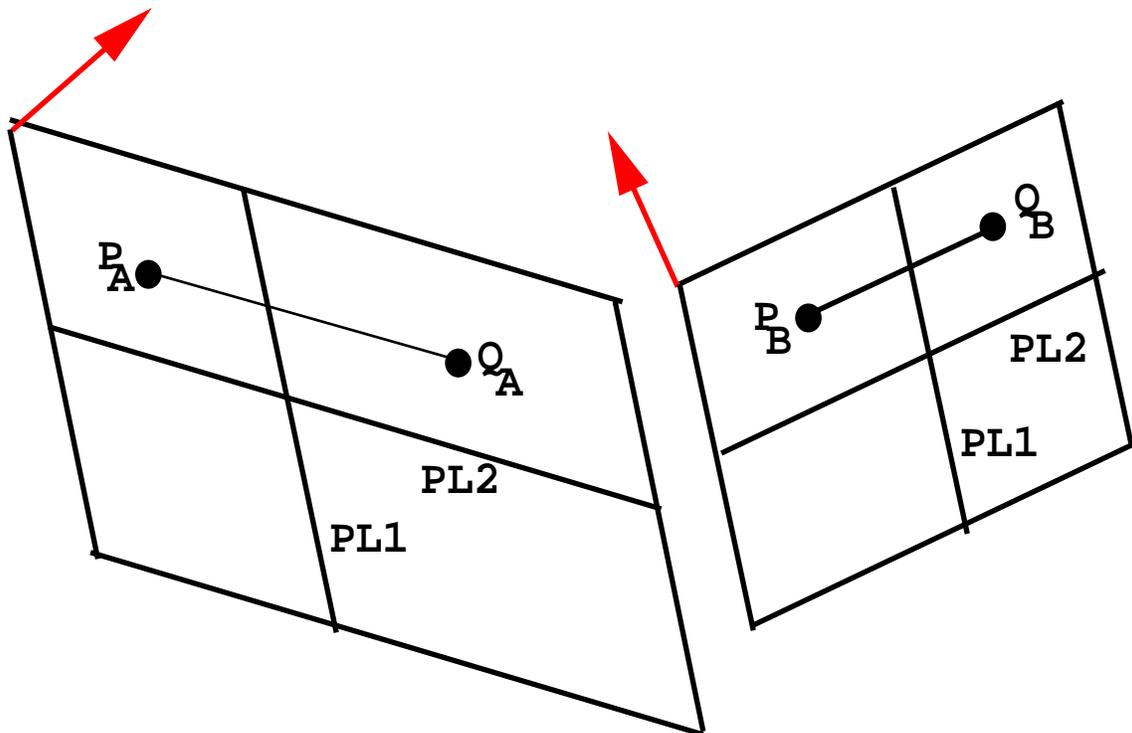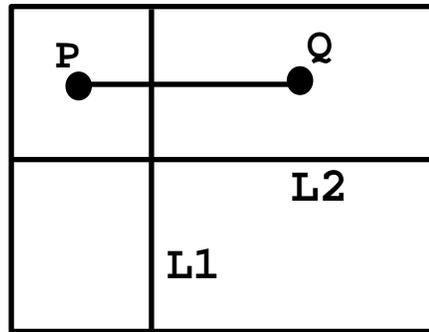
Projection of two planar points on two planes.

Planar slice

y

x

z

0 1 2 3
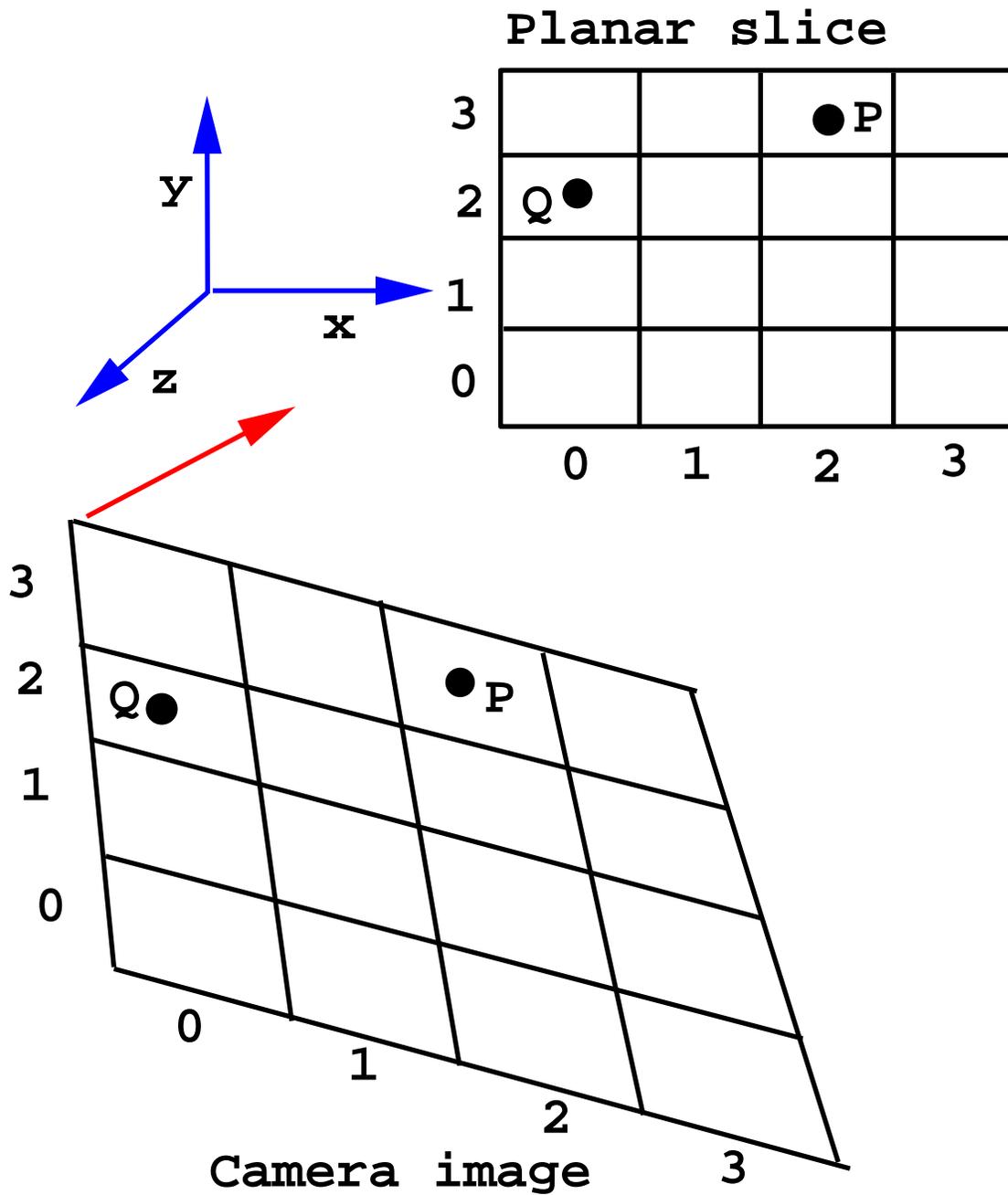
Camera image

Camera images of
two points P and Q.

A set of 3 planer slices.

Slice and its dot pattern

S1 — Left

S2 — Middle

S3 — Right
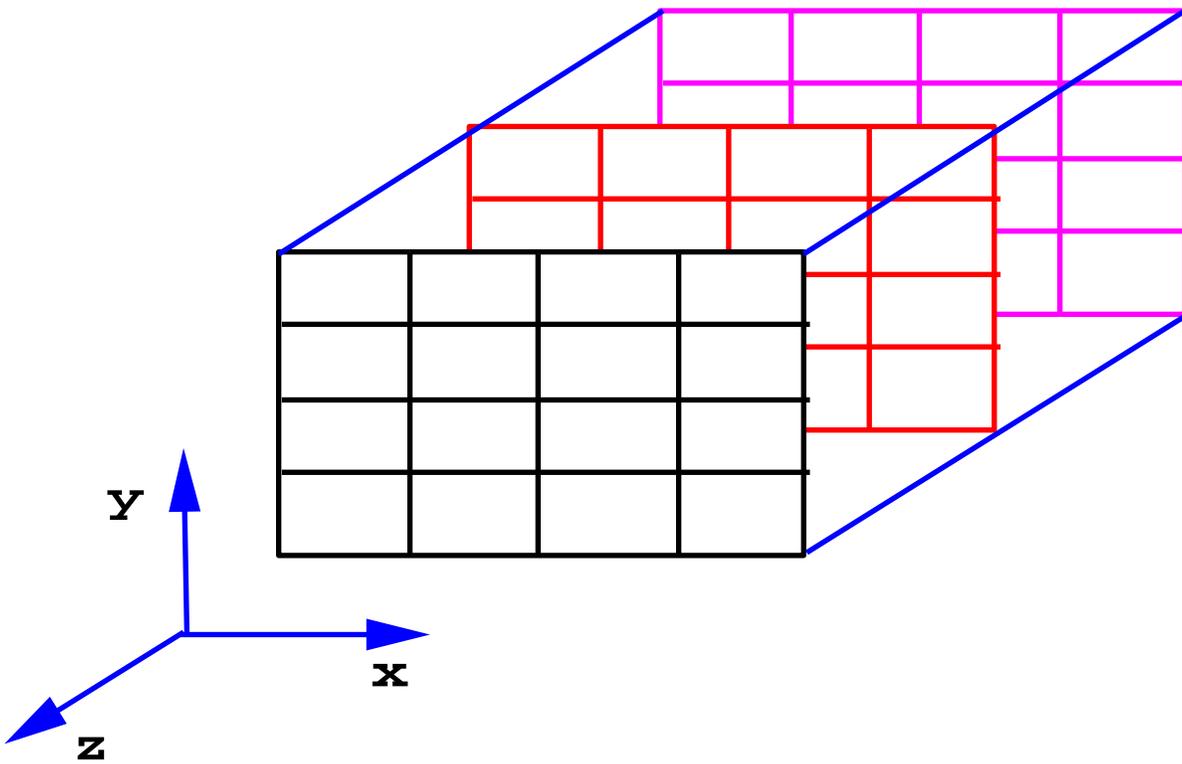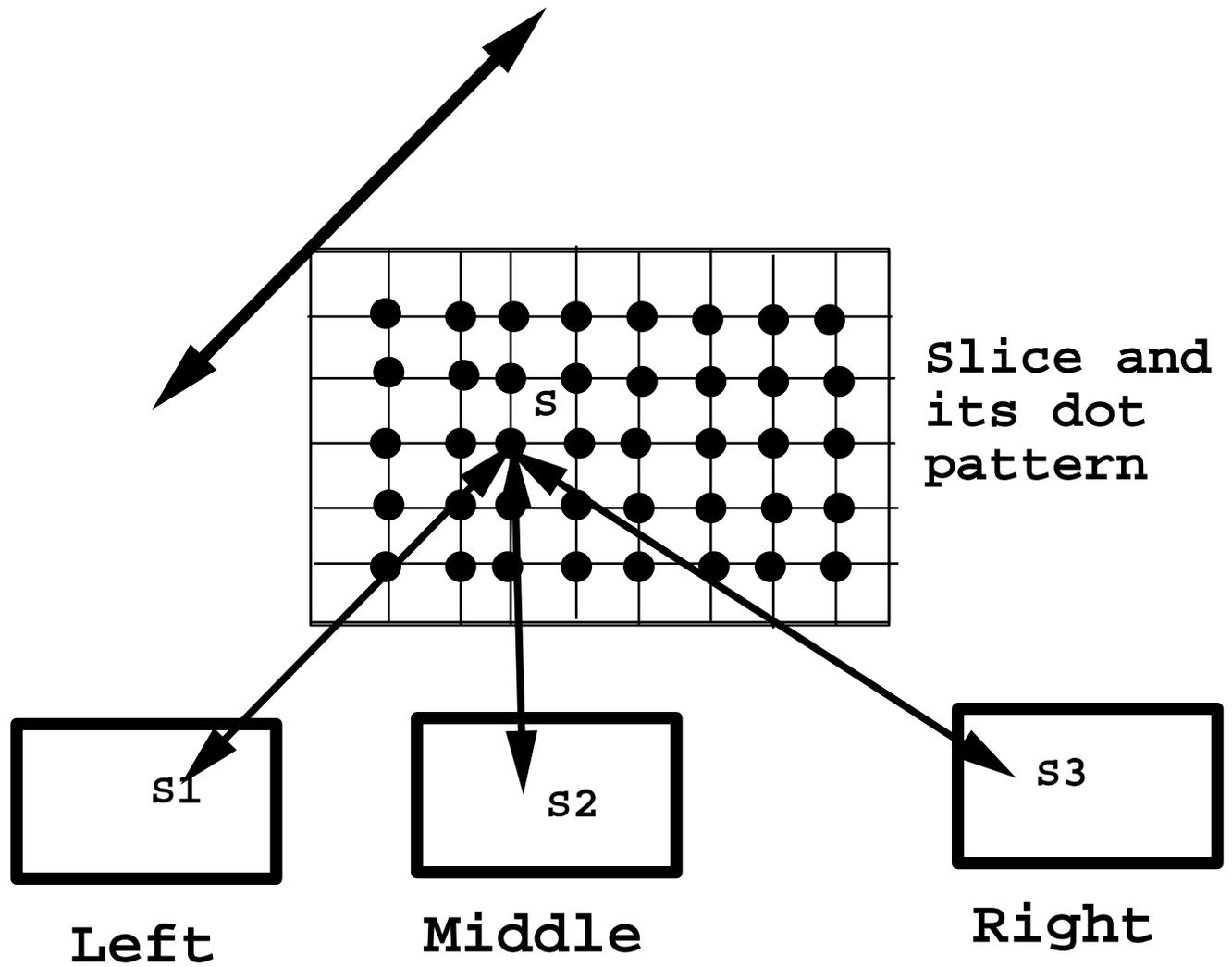
Active space creation

Imprint-set (S1,S2,S3) for point S.
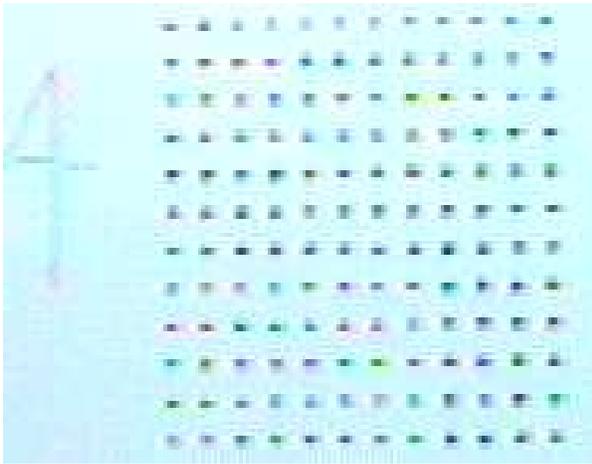
Center
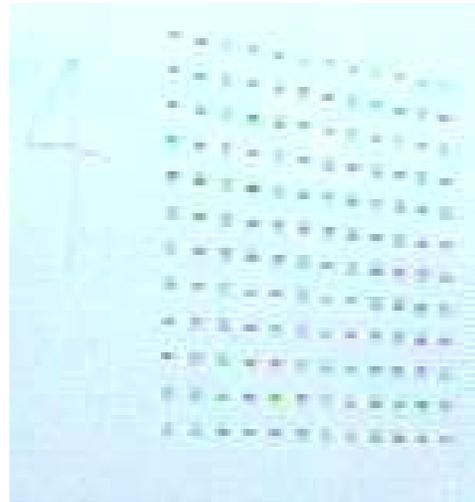
Left
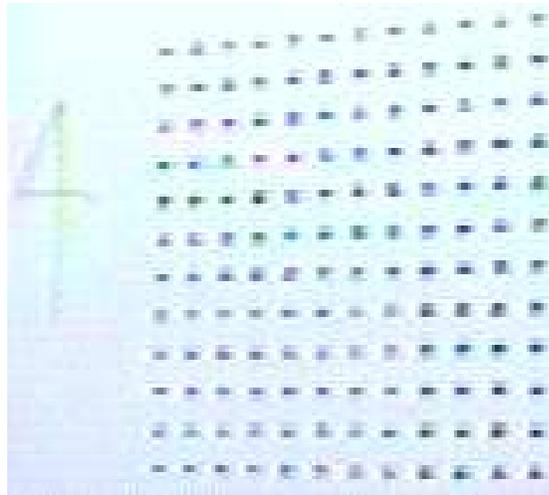
Right

Camera-images from
Slice 4

I₁

I₃

Mₗ

I₂

Aₗ

M_R I₂

I₃

Aᵣ I₁

P

k

k+1

k+2
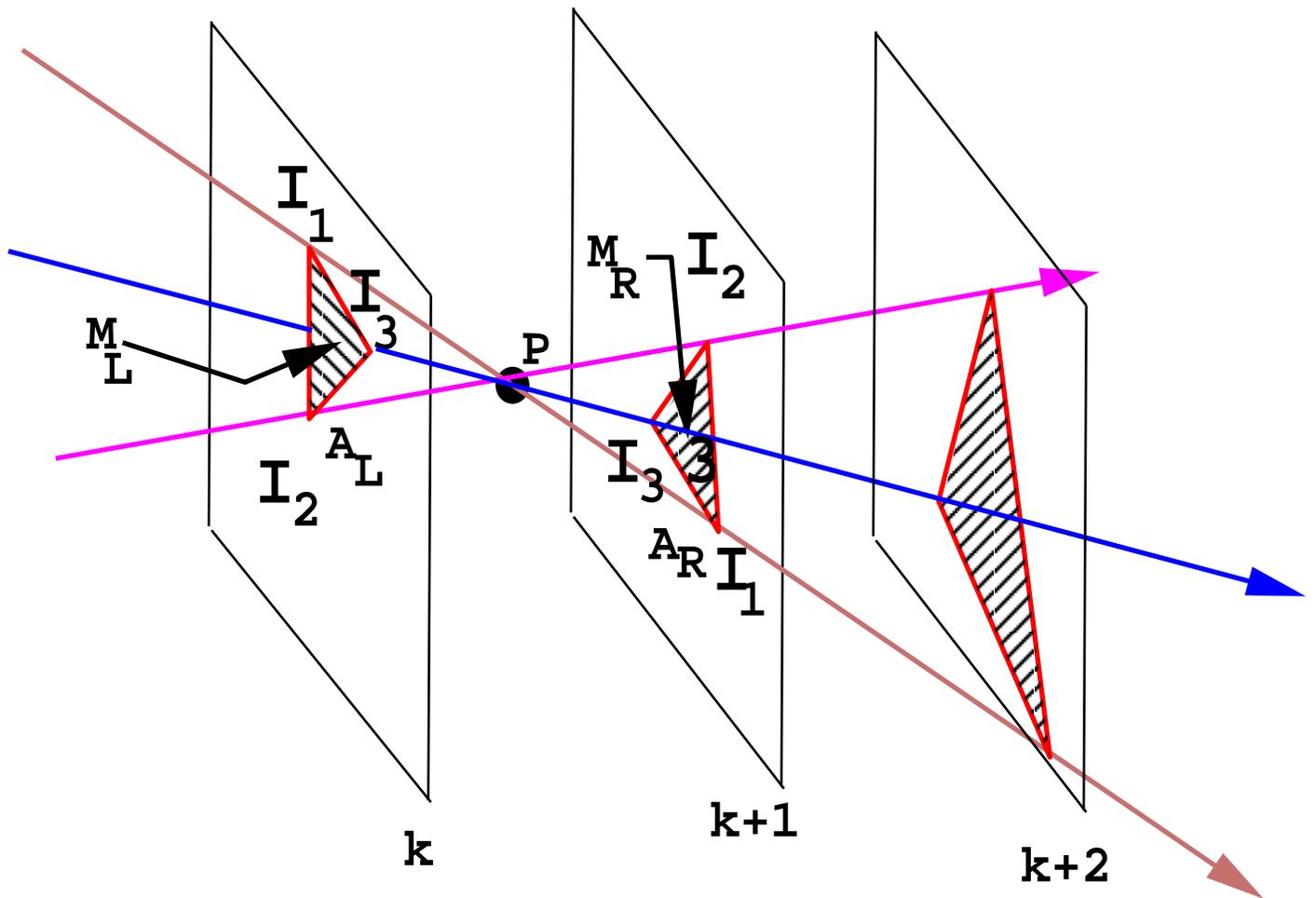
Estimating the active index of P.

I
1
I
A
L
I
2

M
L

I
3

M
R

P

I
3

I
2
A
R

I
1

Linear Interpolation.

Nose-tip

Neck

**left bicep**   **Chest**

**Solar-plexus**

right bicep
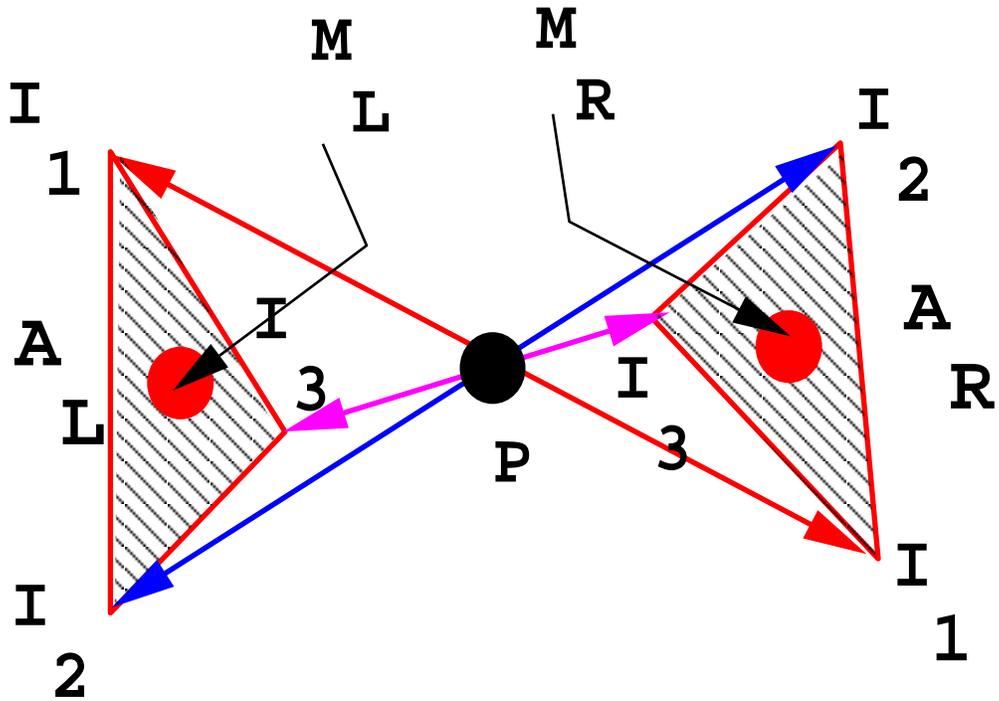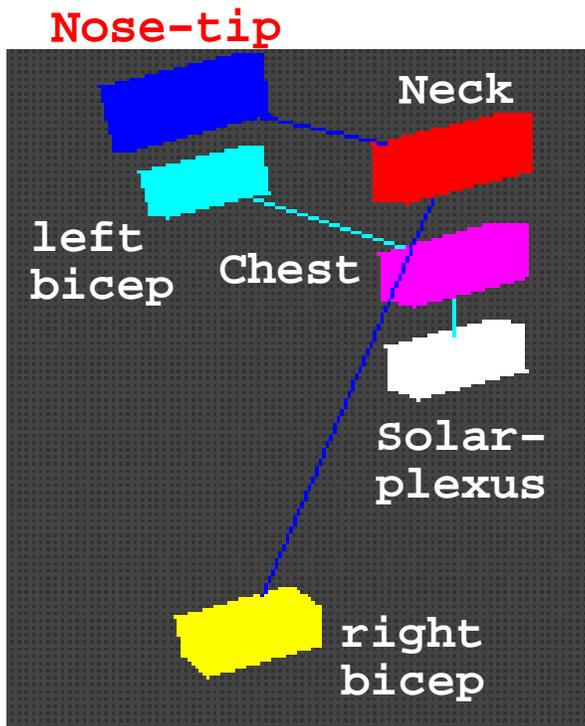
(e)
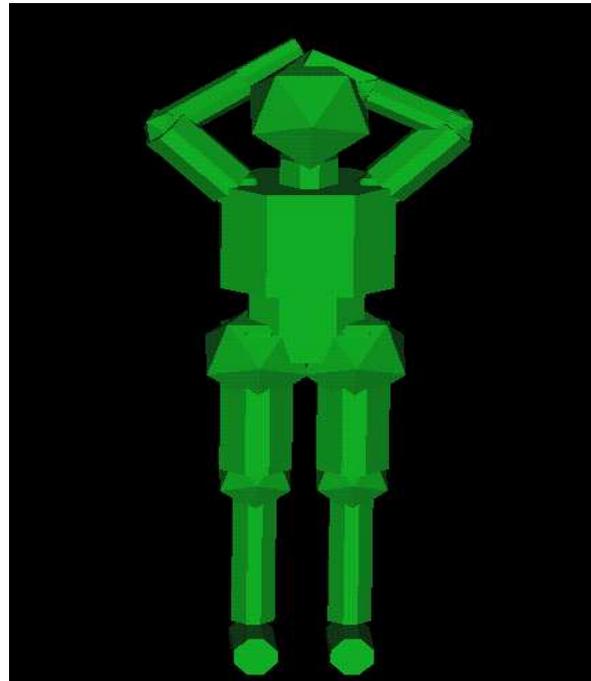
(f)

(e) Another skeleton for a different set of six points. (f) A synthetic actor mimics the participant.
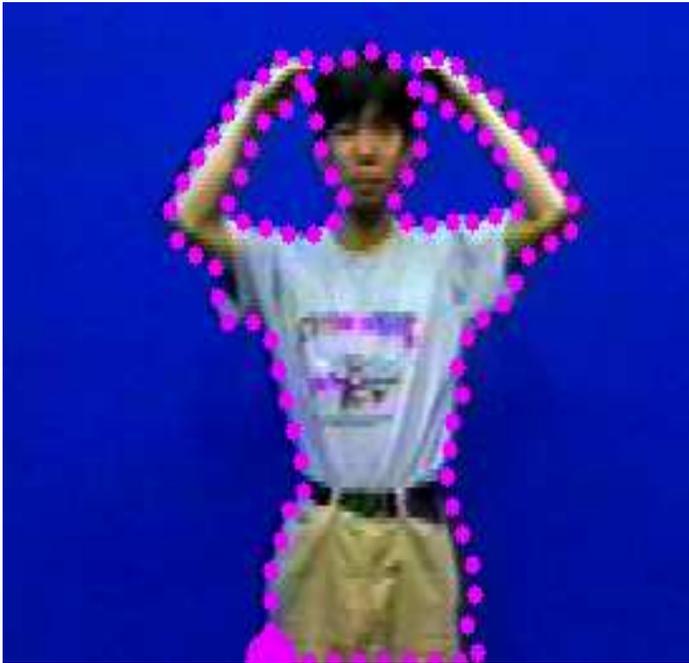
Left: Scan-line algorithm for automatic extraction of the contour.
Right: Geometric-imprint
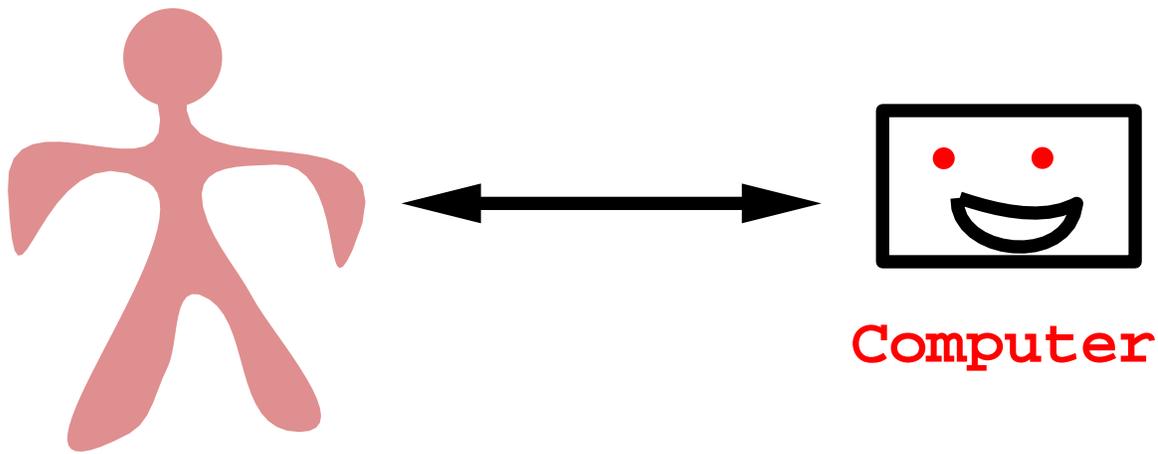
Human-computer interaction
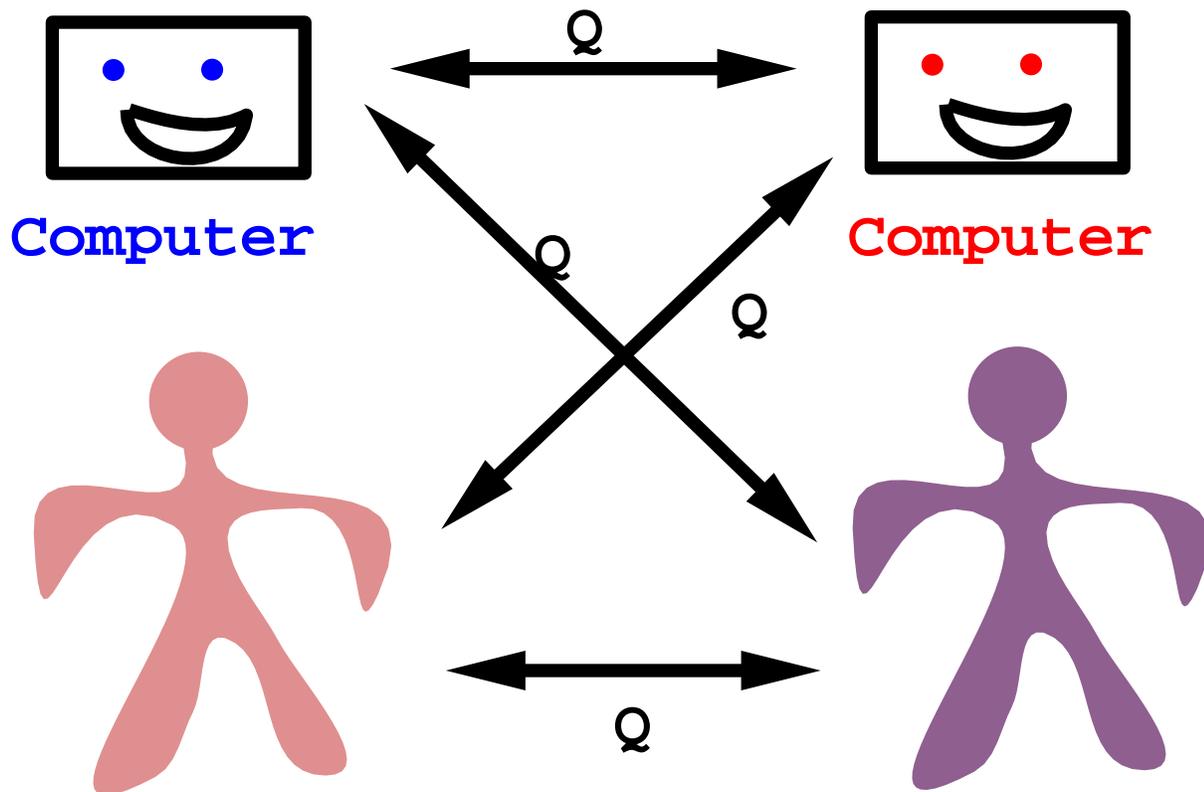
Q: Quality (degree) of interaction is Same.

ASpace5

ASpace7

ASpace6

D

E

F

ASpace4

G

ASpace8

C

A

B

ASpace1

ASpace2

ASpace3
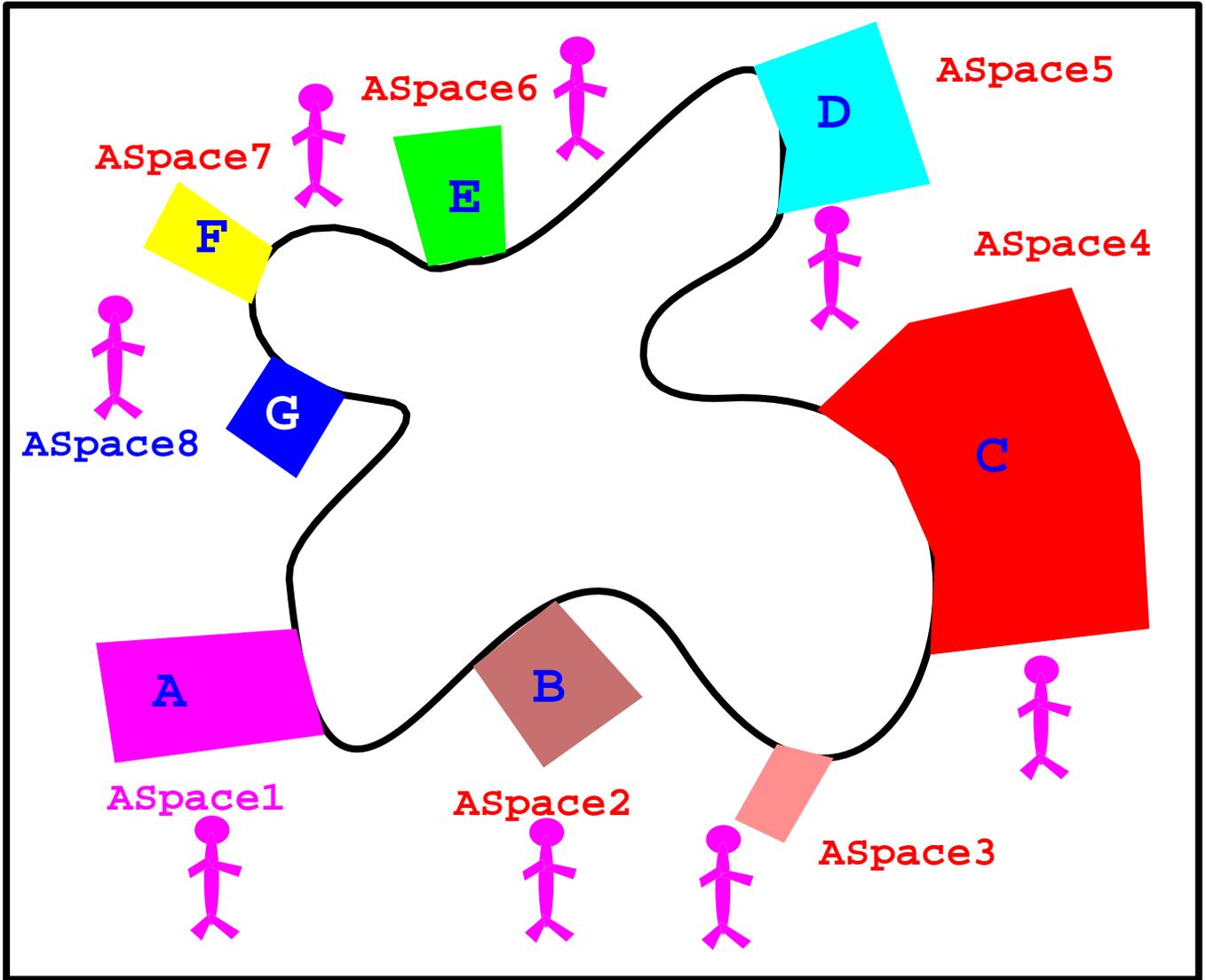
World of Active-spaces

● **Human Centered Applications**

Encumbering

magnetic trackers
optical tracking

Non-encumbering

vision-based

Scan&Track VE

Multiple
Cameras
For Depth

Image
processing

Active-Space
Indexing

Preprocessing
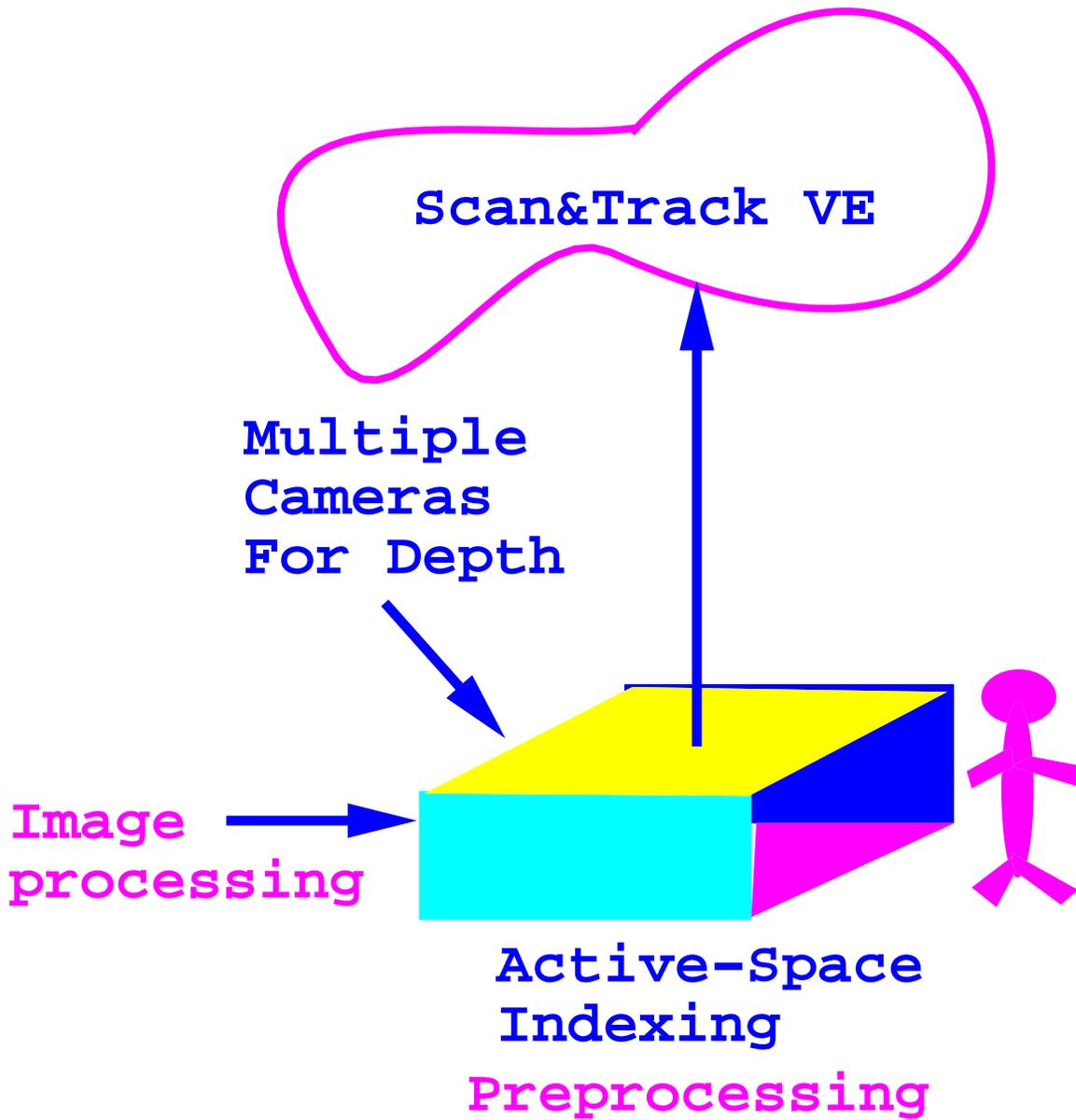
Geometric-Spatial Information
is gathered for later usage