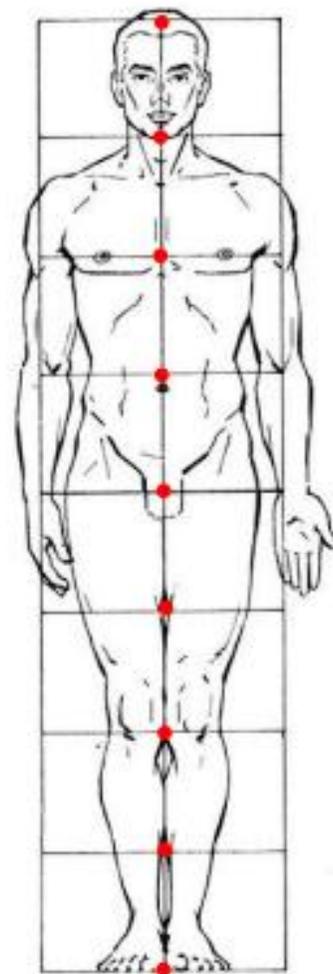
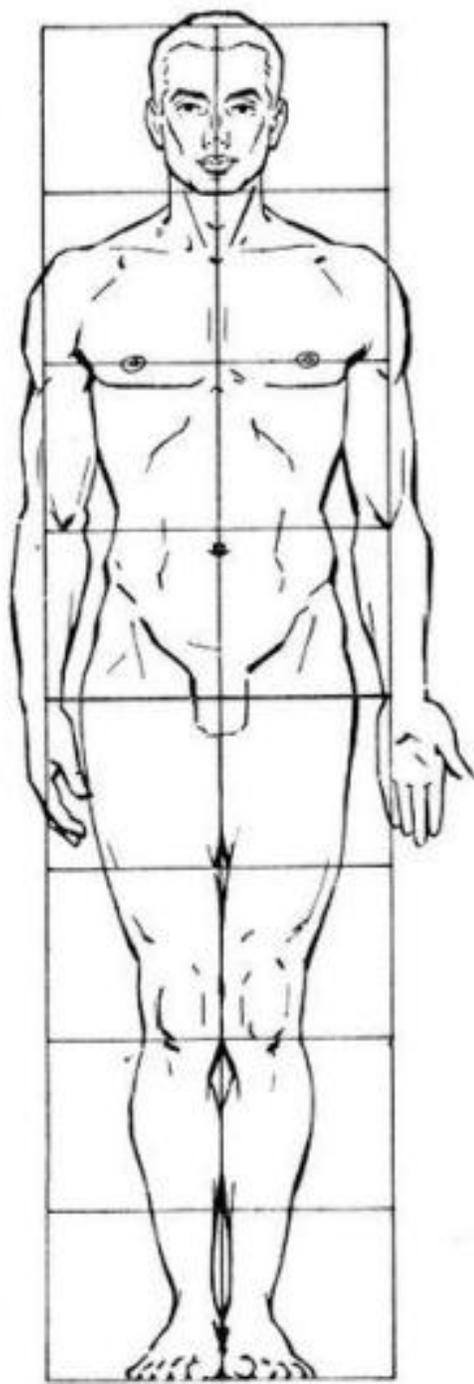


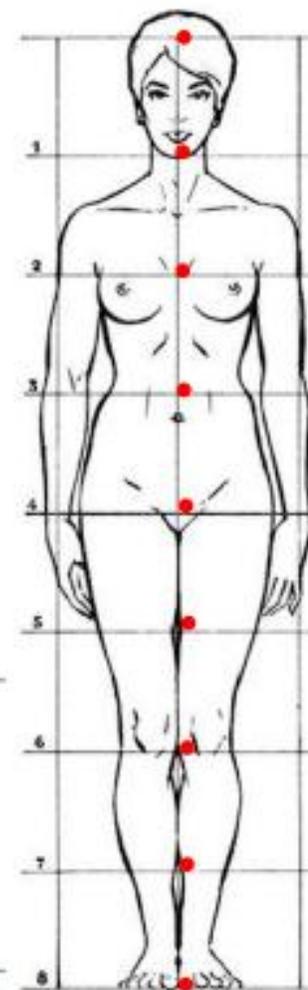
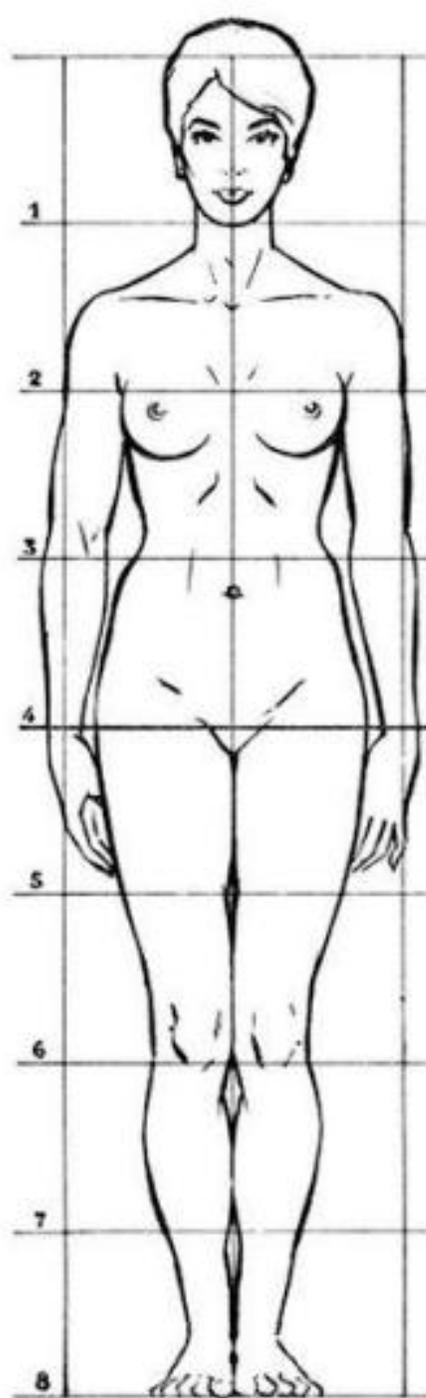
ANTROPOMETRÍA

Escala Humana



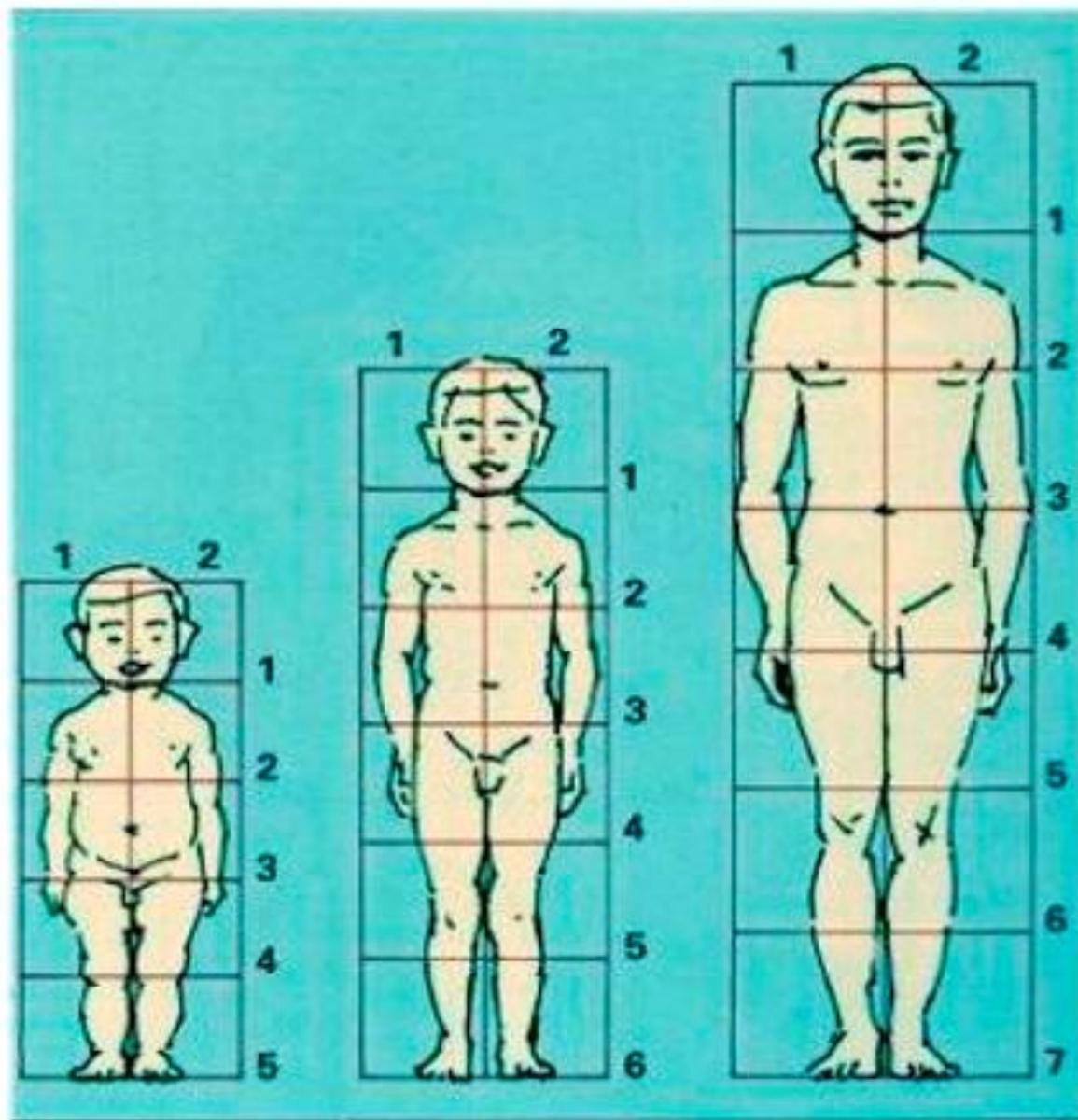
Las proporciones del ser humano

Ajustadas a módulos
1 modulo = 1 cabeza



Las proporciones del ser humano

Ajustadas a módulos
1 modulo = 1 cabeza



Las **proporciones varían** cuando el
niño crece 5,6,7 y 8 cabezas

ANTROPOMETRÍA

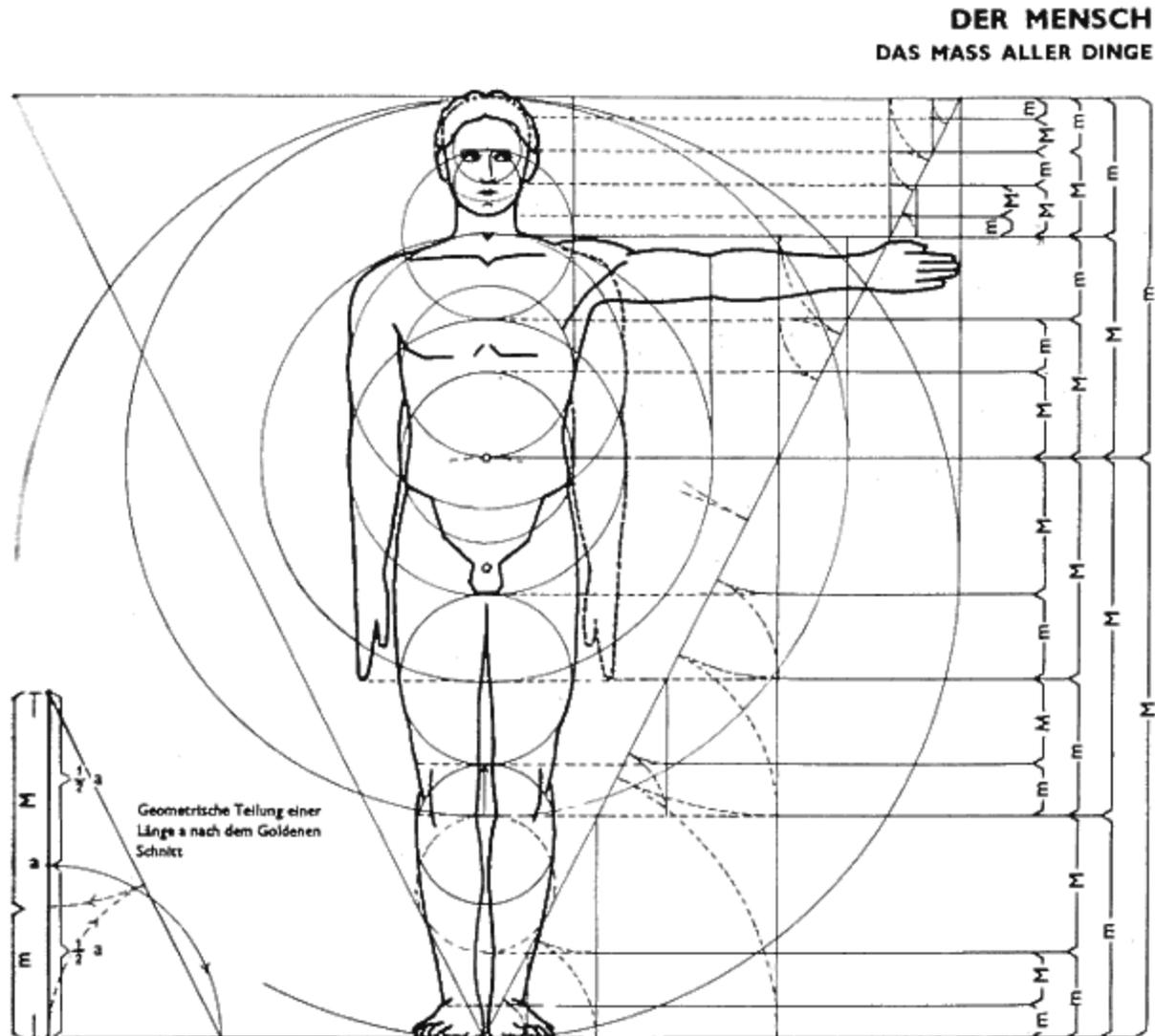
Palabra griega

- *Anthropos* significa hombre
- *Metron* significa Medida

Estudio comparativo de los tamaños y proporciones del cuerpo humano

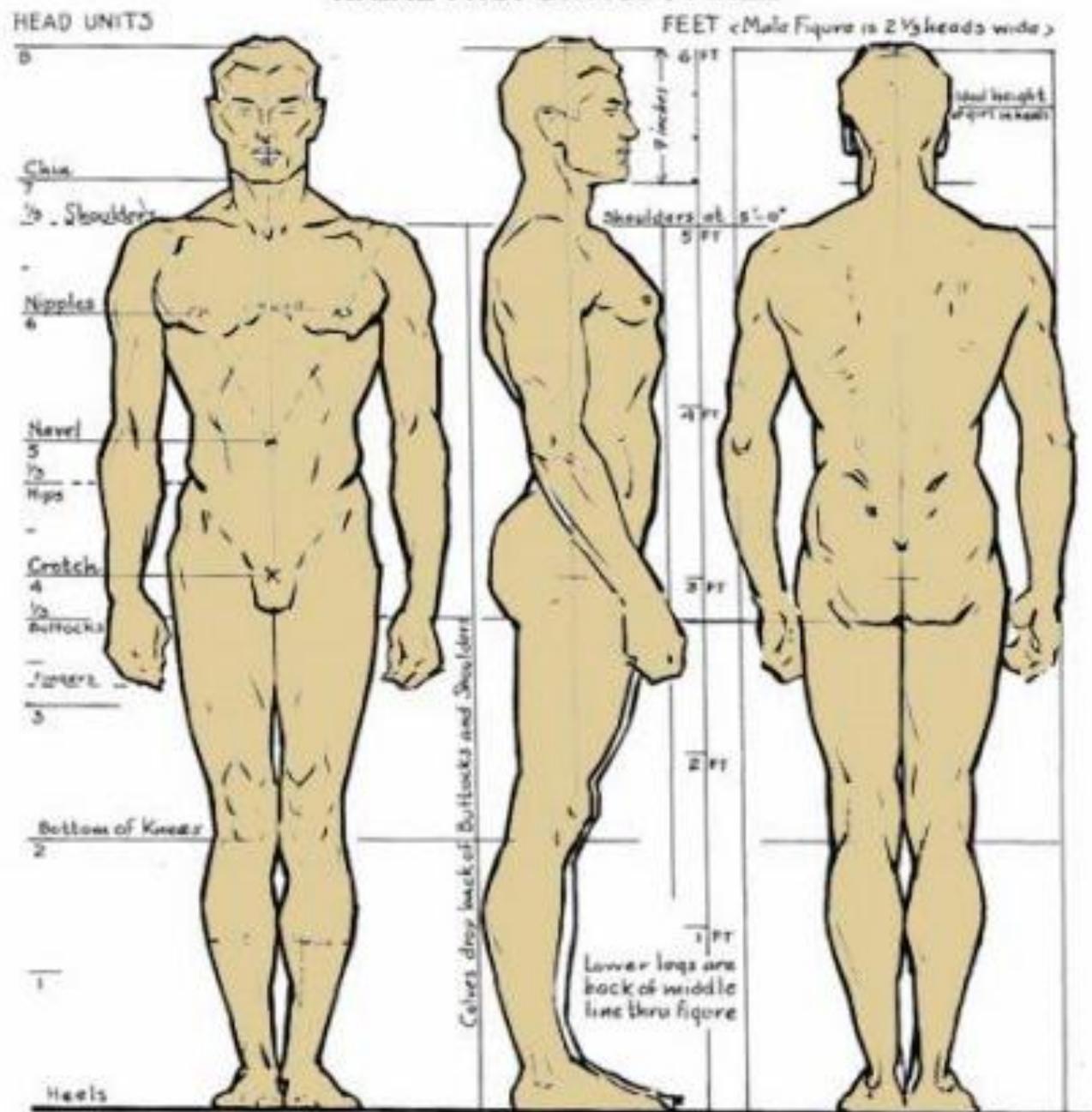
The details worked out by Dürer became a common standard and were used extensively. He started with the height of man and expressed the subdivisions as fractions:

- $\frac{1}{2} h$ = the whole of the top half of the body, from the crotch upwards
 - $\frac{1}{4} h$ = leg length from the ankle to the knee and from the chin to the navel
 - $\frac{1}{6} h$ = length of foot
 - $\frac{1}{8} h$ = head length from the hair parting to the bottom of the chin, distance between the nipples
 - $\frac{1}{10} h$ = face height and width (including the ears), hand length to the wrist
 - $\frac{1}{12} h$ = face width at the level of the bottom of the nose, leg width (above the ankle) and so on.
- The sub-divisions go up to $\frac{1}{40} h$.



Source: neufert's architects data

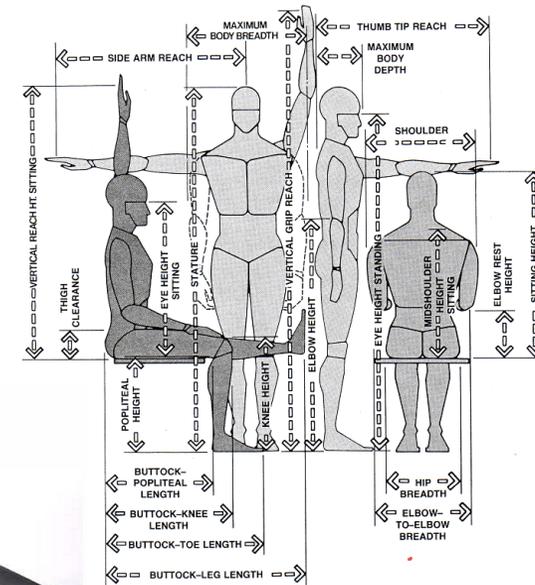
IDEAL PROPORTION, MALE



La antropometría se basa en las **relaciones funcionales** y **dimensiones del ser humano** promedio.

Las relaciones funcionales afectan:

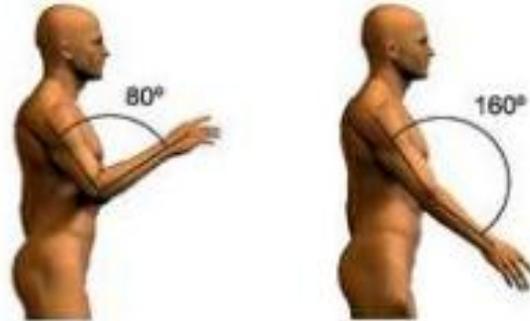
- Las cosas que manejamos
- La altura y distancia de las cosas que alcanzamos
- Las dimensiones de los muebles que utilizamos para sentarse, trabajar, comer y dormir





ANGULOS DE CONFORT GRANDJEAN

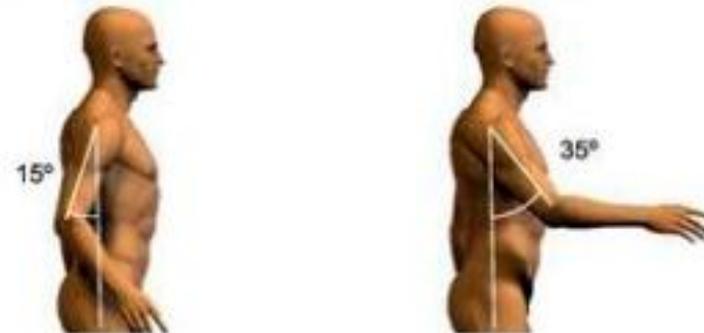
FLEXIÓN Y EXTENSIÓN CODO



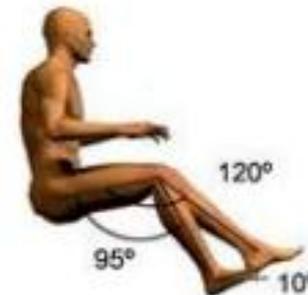
ABDUCCION HOMBRO



FLEXIÓN Y EXTENSIÓN HOMBRO

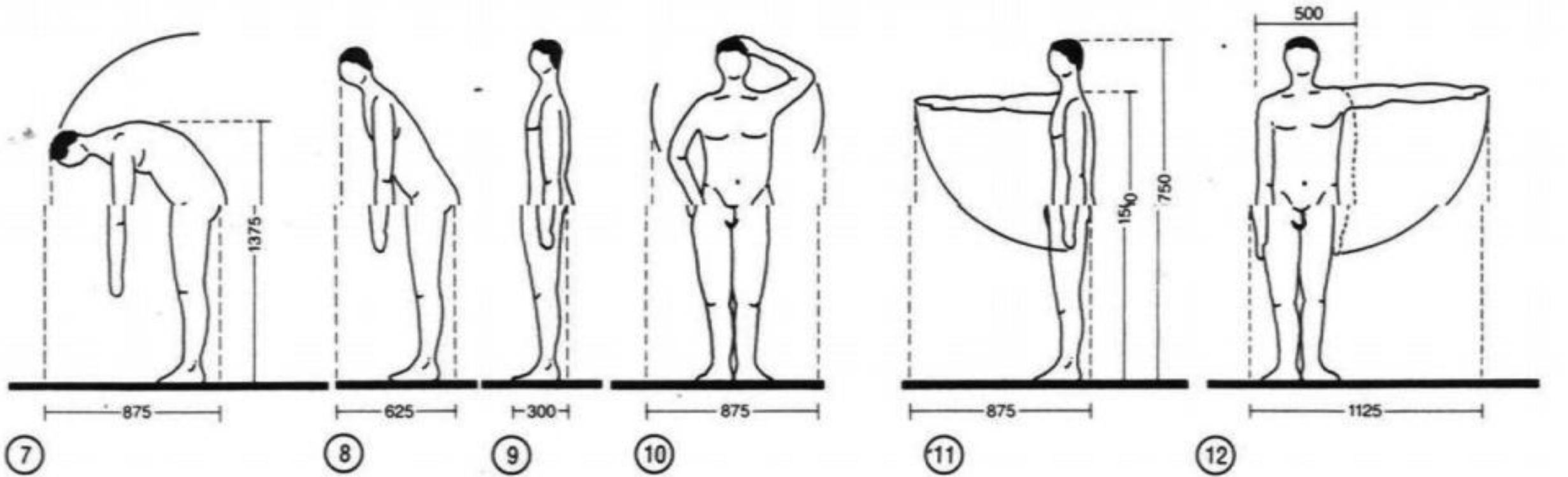
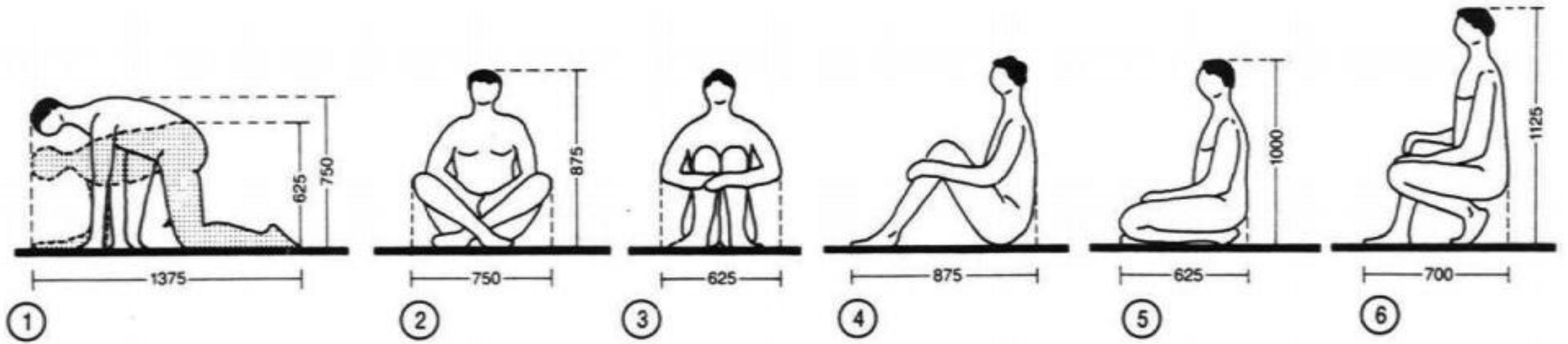


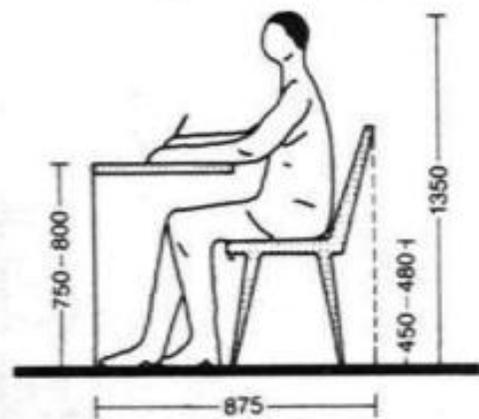
FLEXION Y EXTENSION PIERNA



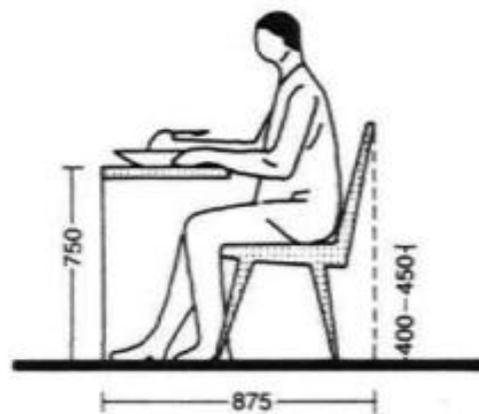
ABDUCCION Y EXTENSION CODO

Las flexiones se miden en ángulos para
diseñar muebles y espacios

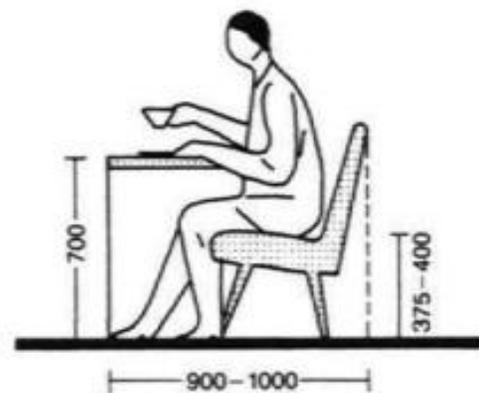




13 Sentado en silla de trabajo



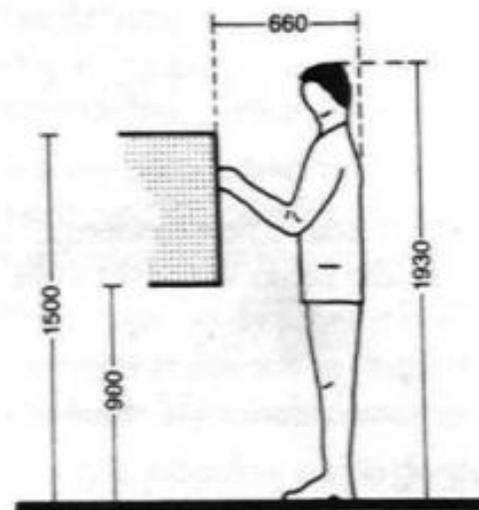
14 Sentado en silla de comer



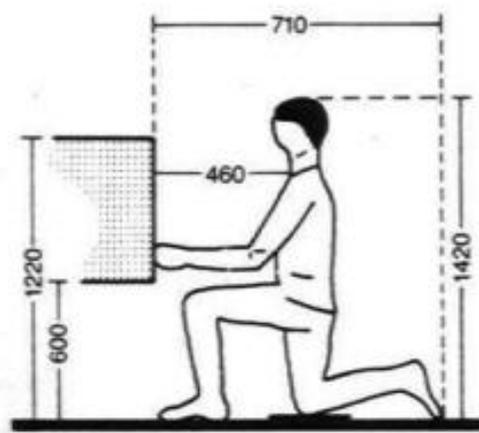
15 Sentado en sillón pequeño



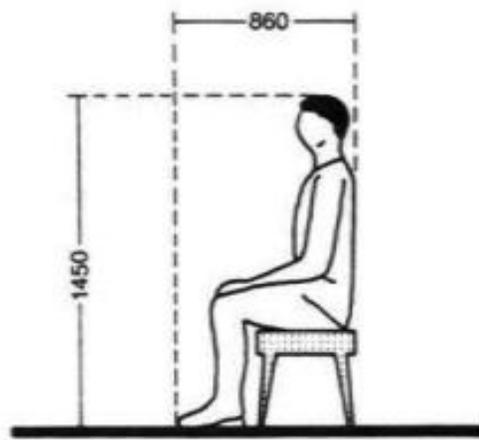
16 Sentado en un sofá



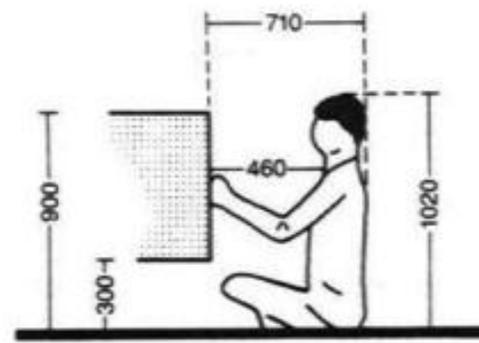
17 Trabajando de pie



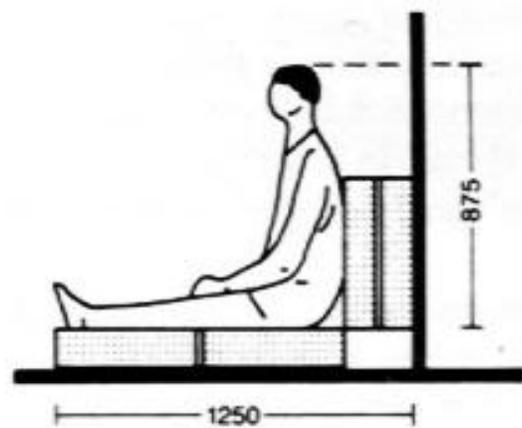
18 De rodillas



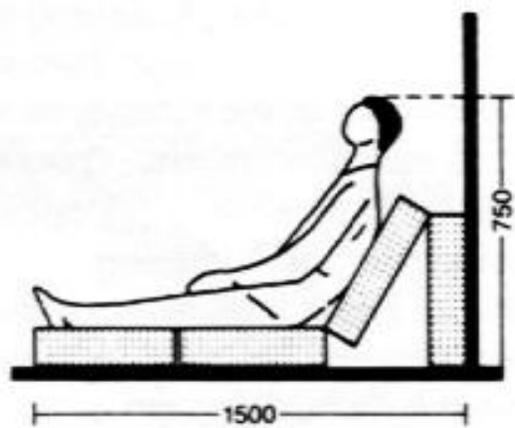
19 Sentado



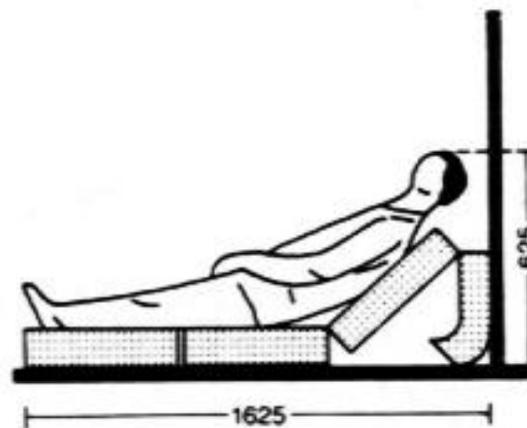
20 Sentado en el suelo



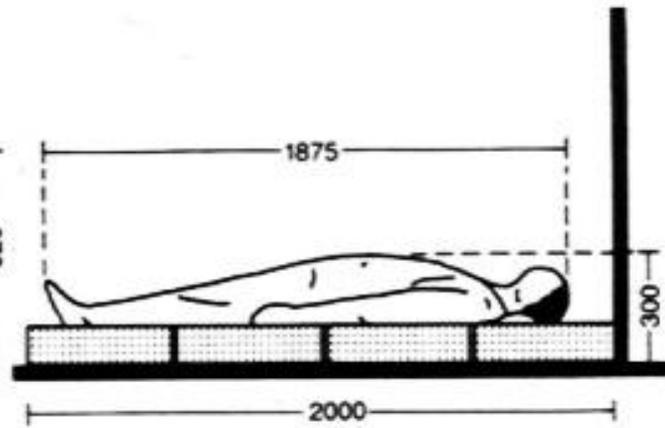
21



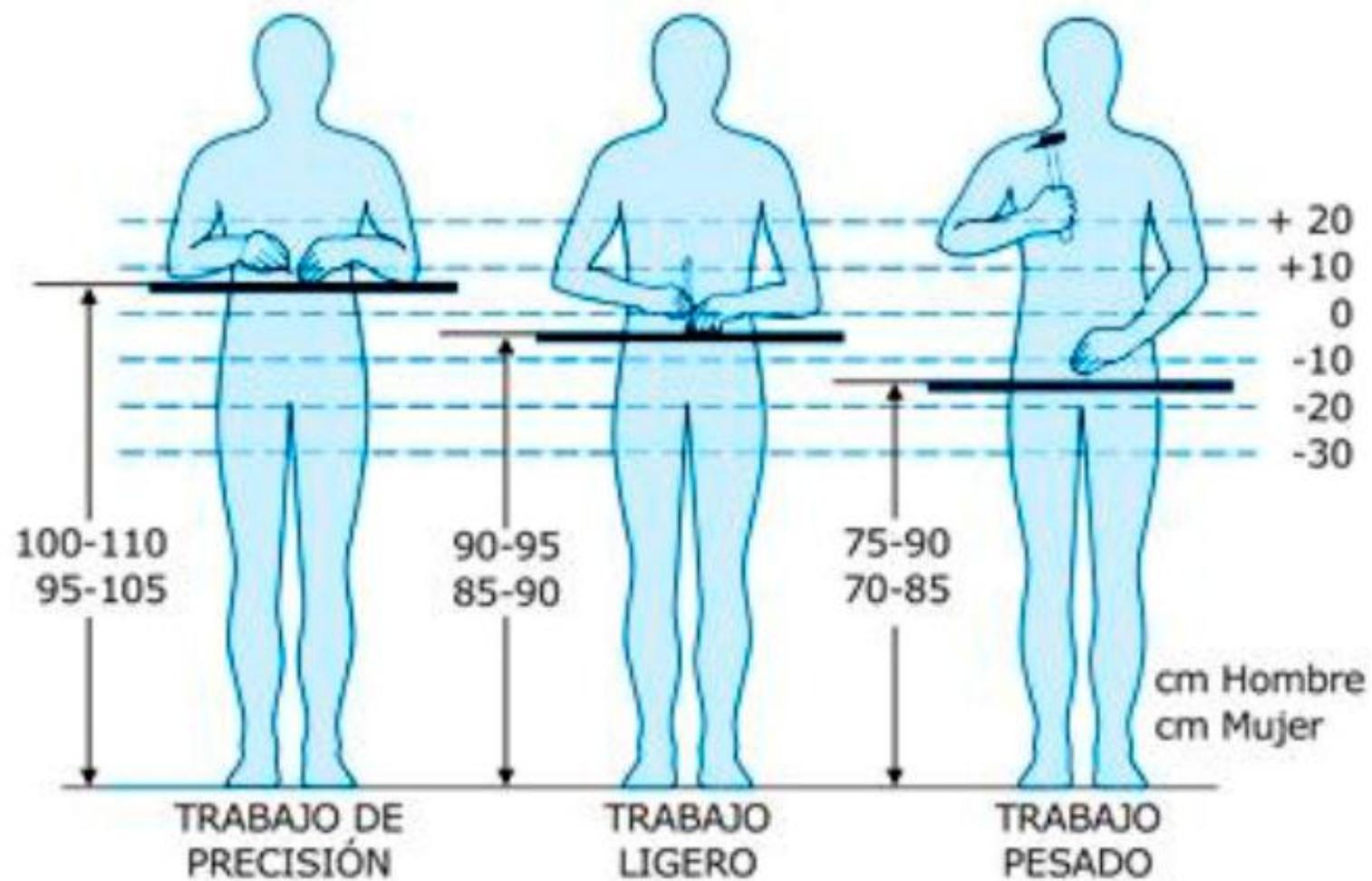
22



23



24



Las alturas de las mesas **en función de la actividad** que se desarrollará.

ESPACIO NECESARIO ENTRE PAREDES

para personas en movimiento, aumentar la anchura $\cong 10\%$



375

1



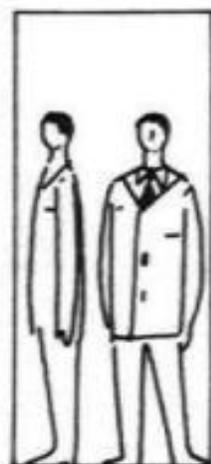
625

2



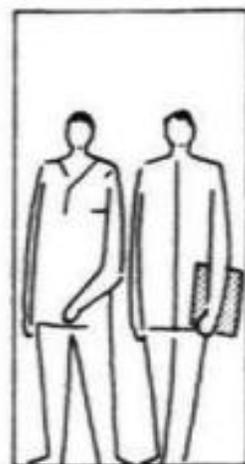
875

3



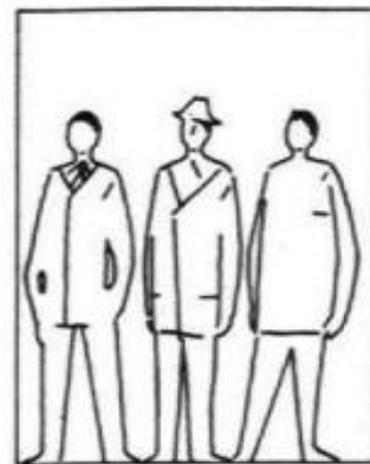
1000

4



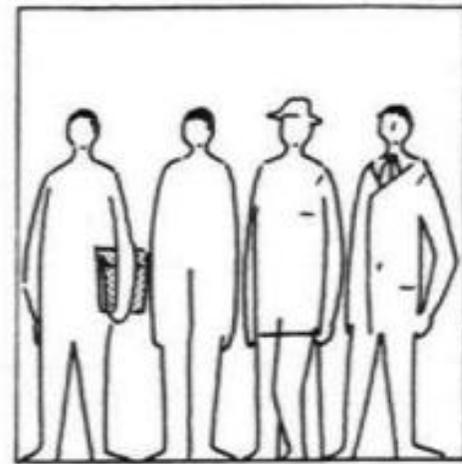
1150

5



1700

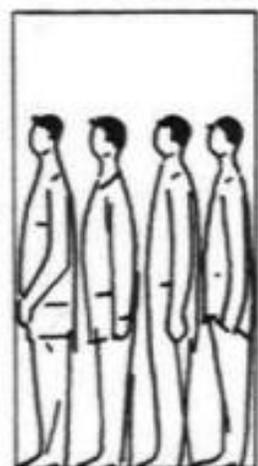
6



2250

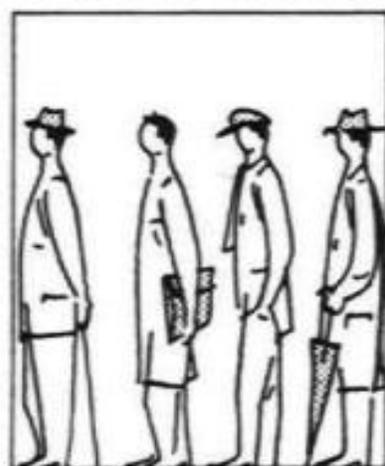
7

ESPACIO NECESARIO PARA GRUPOS



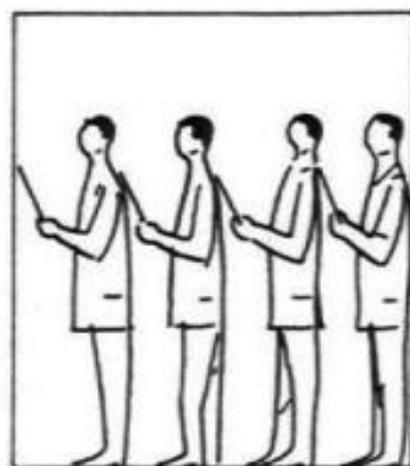
1250

8 En fila apretada



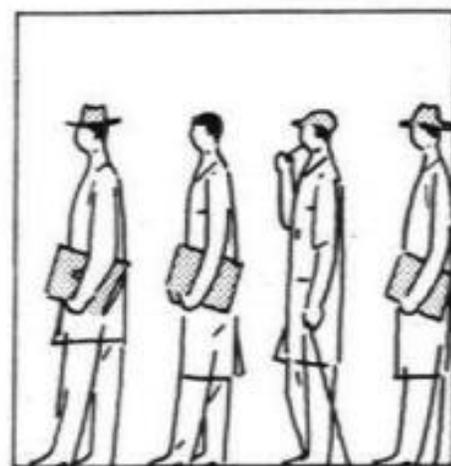
1875

9 En fila normal



2000

10 Grupo coral



2125

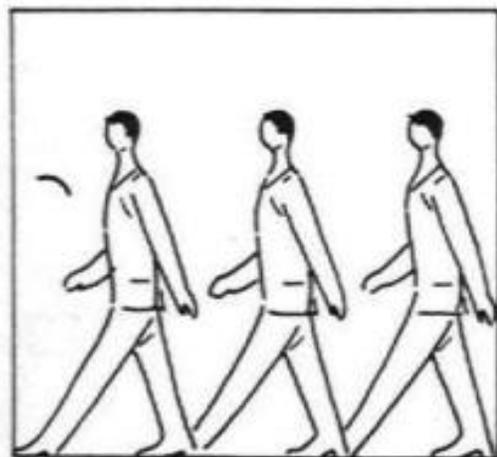
11 Para esperas largas



2250

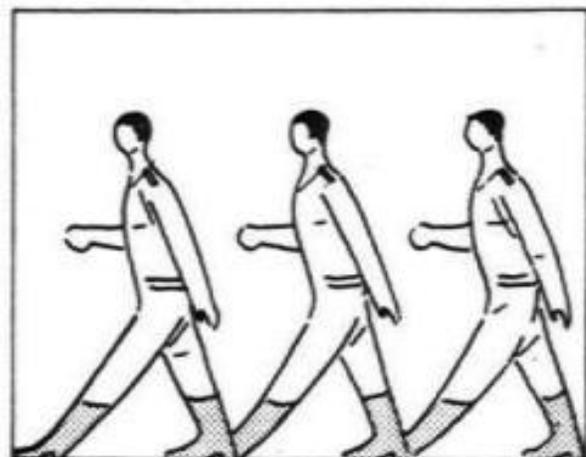
12 Con mochilas

MEDIDAS DE UN PASO



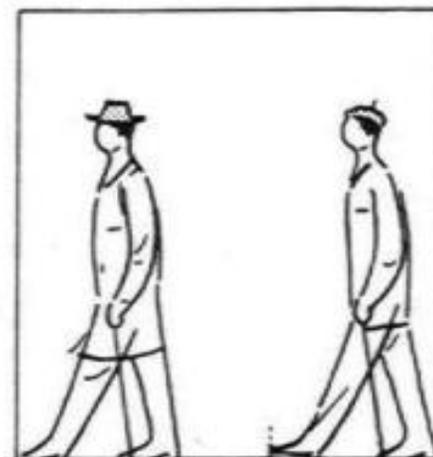
750 750 750

13 Paso normal



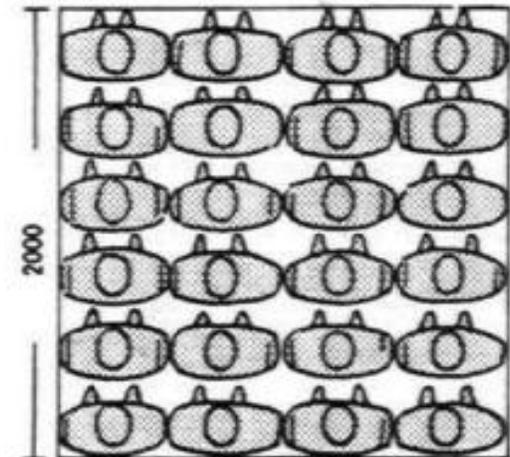
875 875 875

14 Paso ligero



1250 625

15 Paso de paseo



2000 2000

16 Máxima densidad por m^2 = 6 personas (p.e.: funiculares)

ESPACIO NECESARIO SEGÚN LA POSICIÓN DEL CUERPO



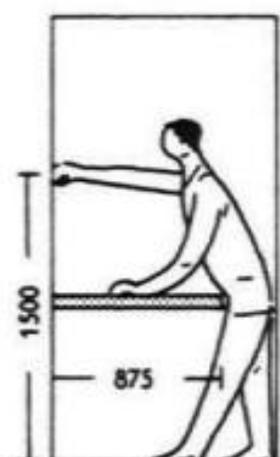
1125

17



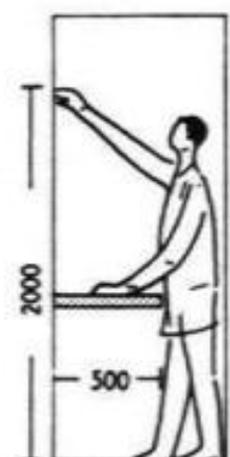
1000

18



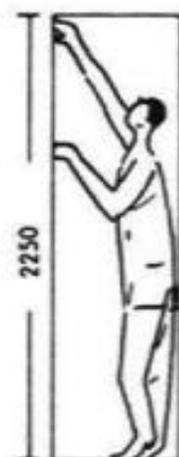
1500 875

19



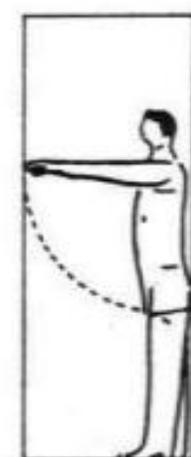
2000 500

20



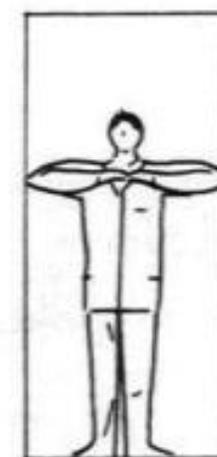
2250 625

21



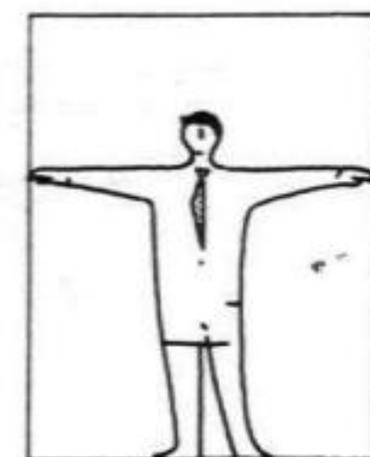
875

22



1000

23



1750

24

ESPACIO NECESARIO CON EQUIPAJE DE MANO

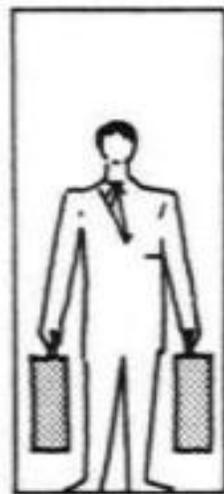
ESPACIO NECESARIO CON BASTÓN Y PARAGUAS

ESPACIO NECESARIO CON EQUIPAJE DE MANO



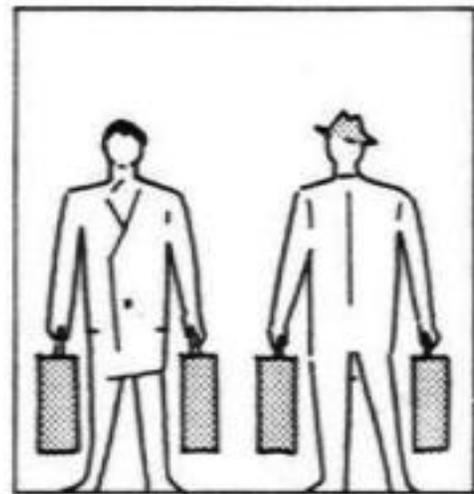
800

25



1000

26



2125

27



875

28



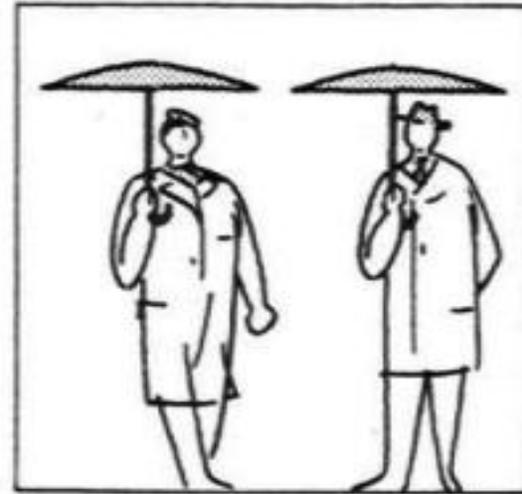
750

29



1125

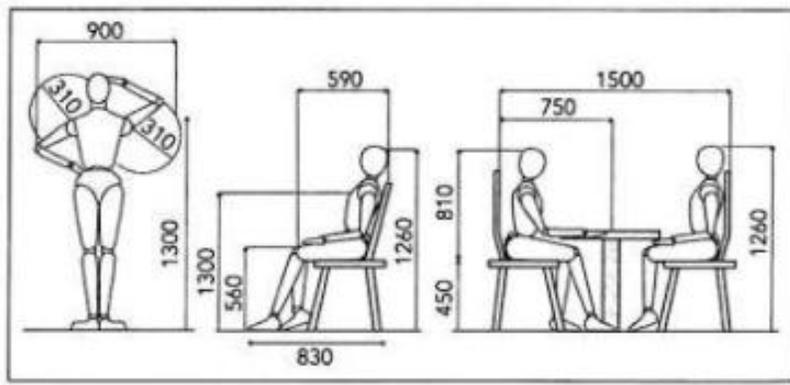
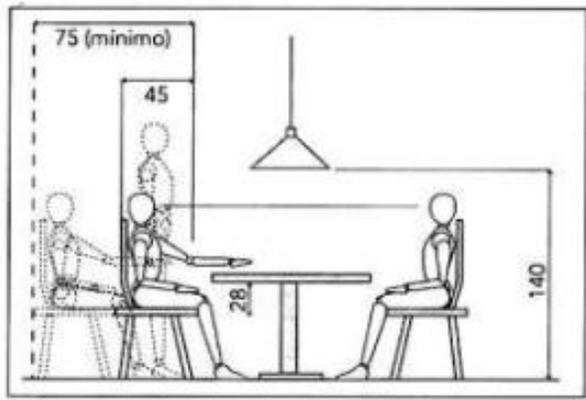
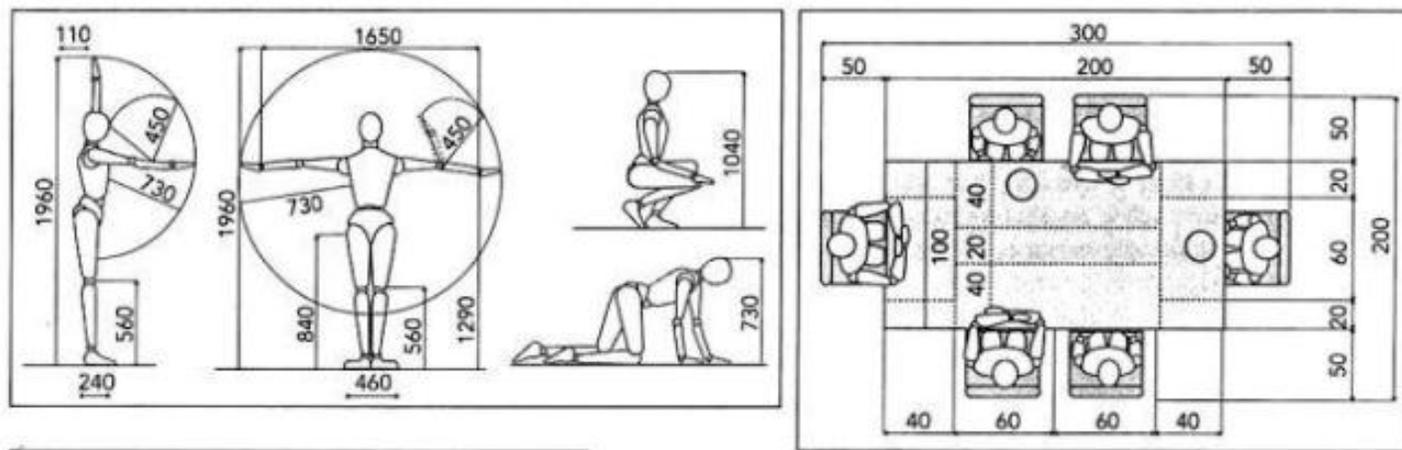
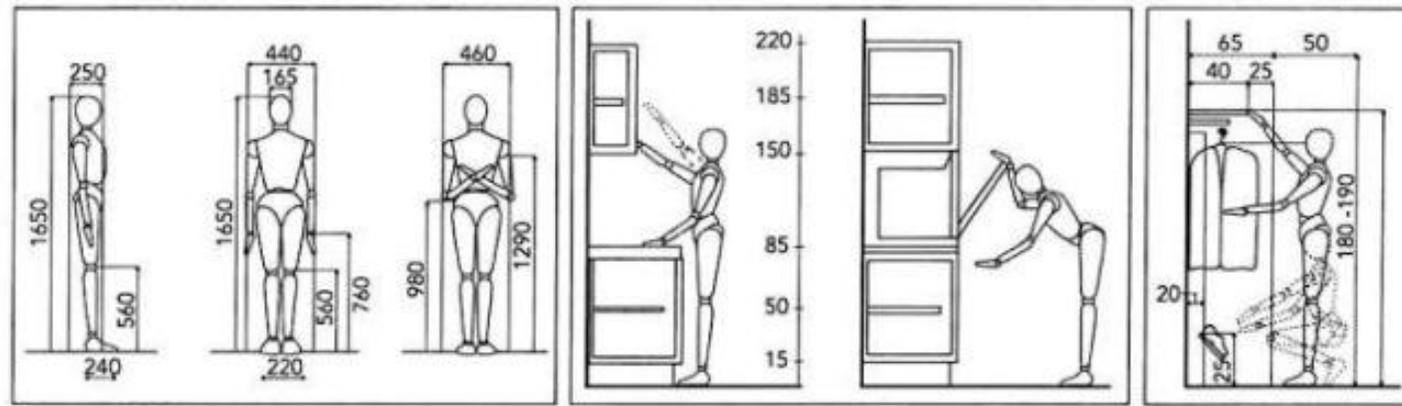
30



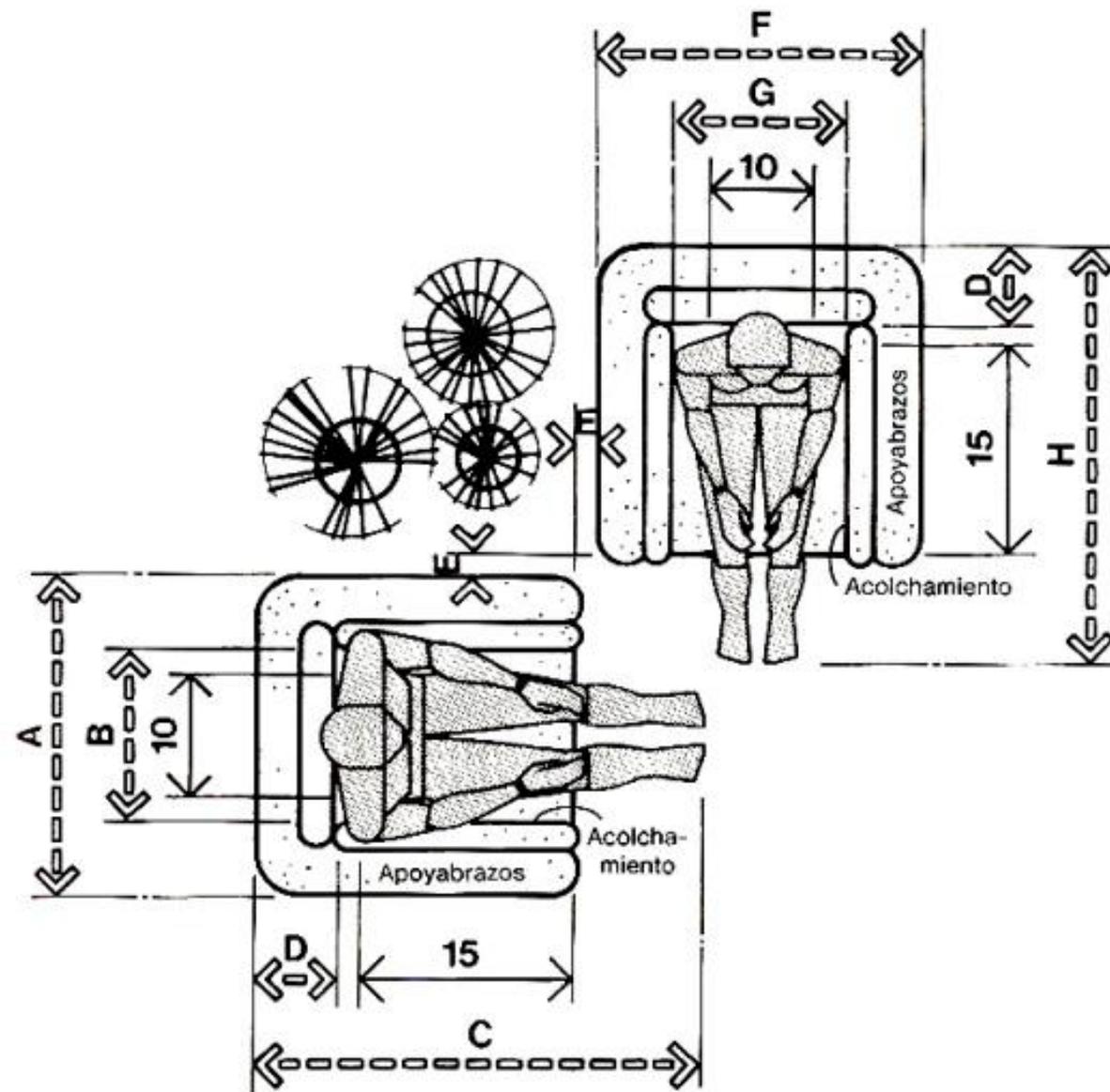
2375

31

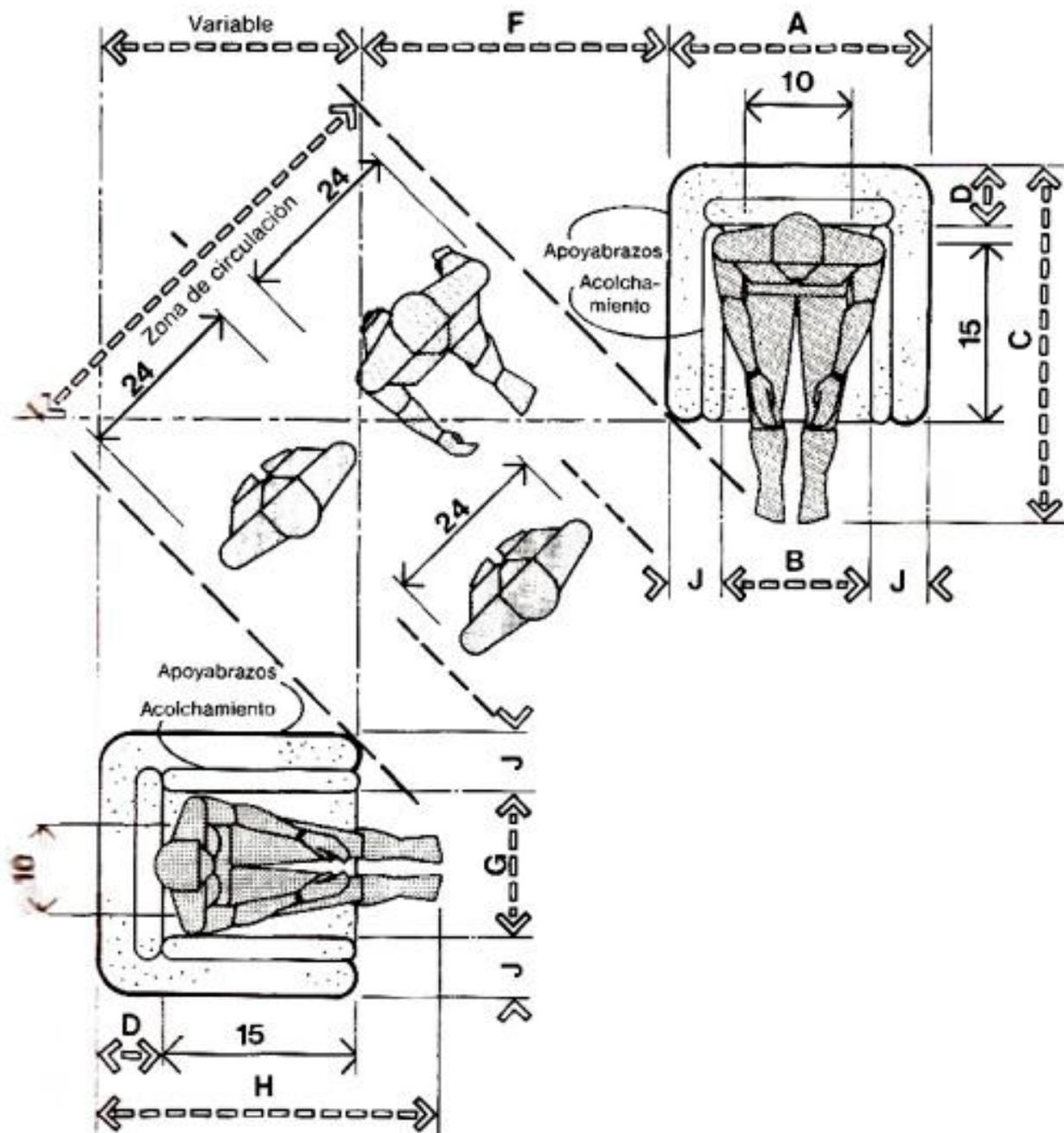
ESPACIO NECESARIO CON BASTÓN Y PARAGUAS



Las medidas de los muebles y ambientes derivan de las medidas de las personas.

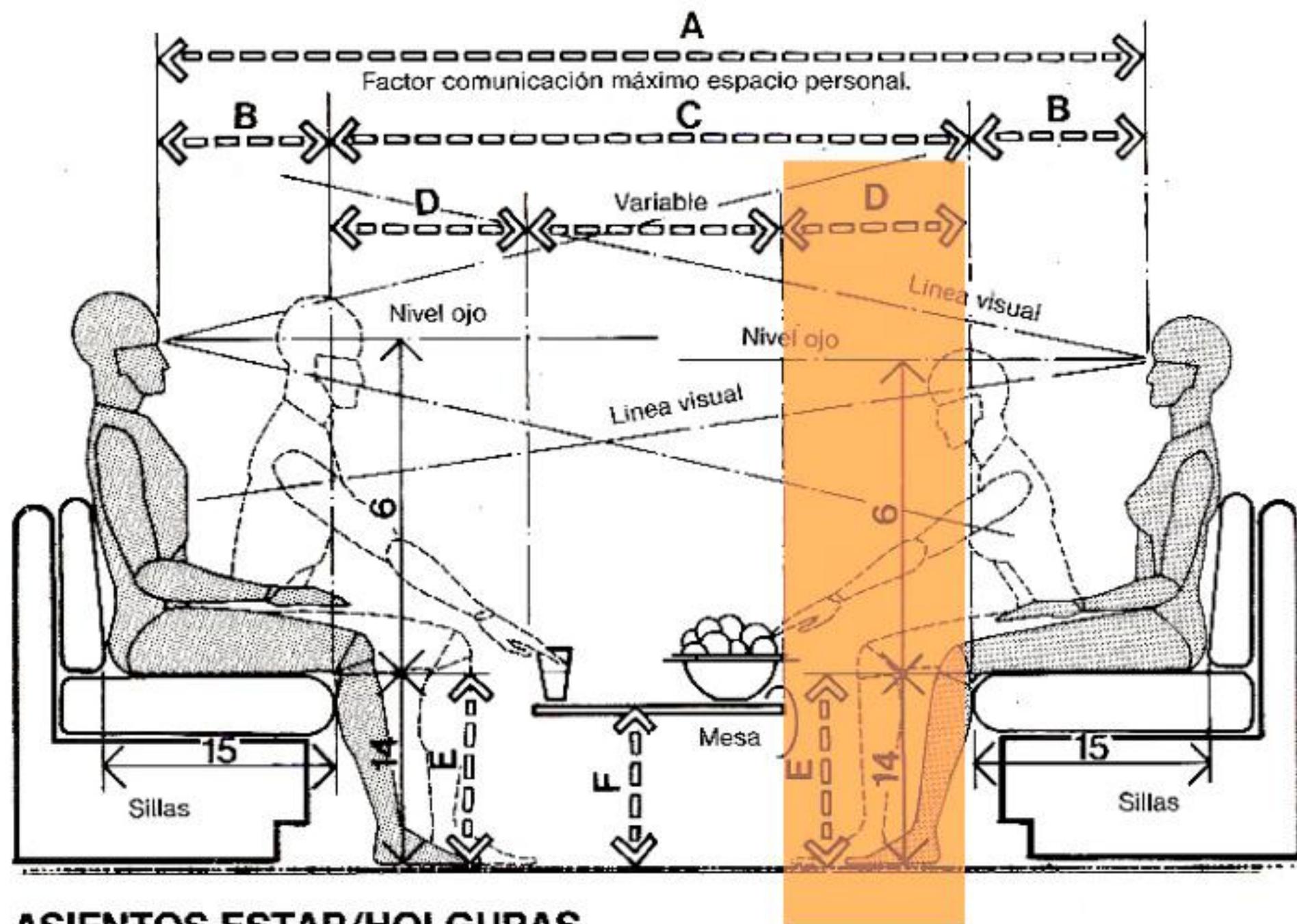


SILLON RINCONERA/HOMBRE Y MUJER

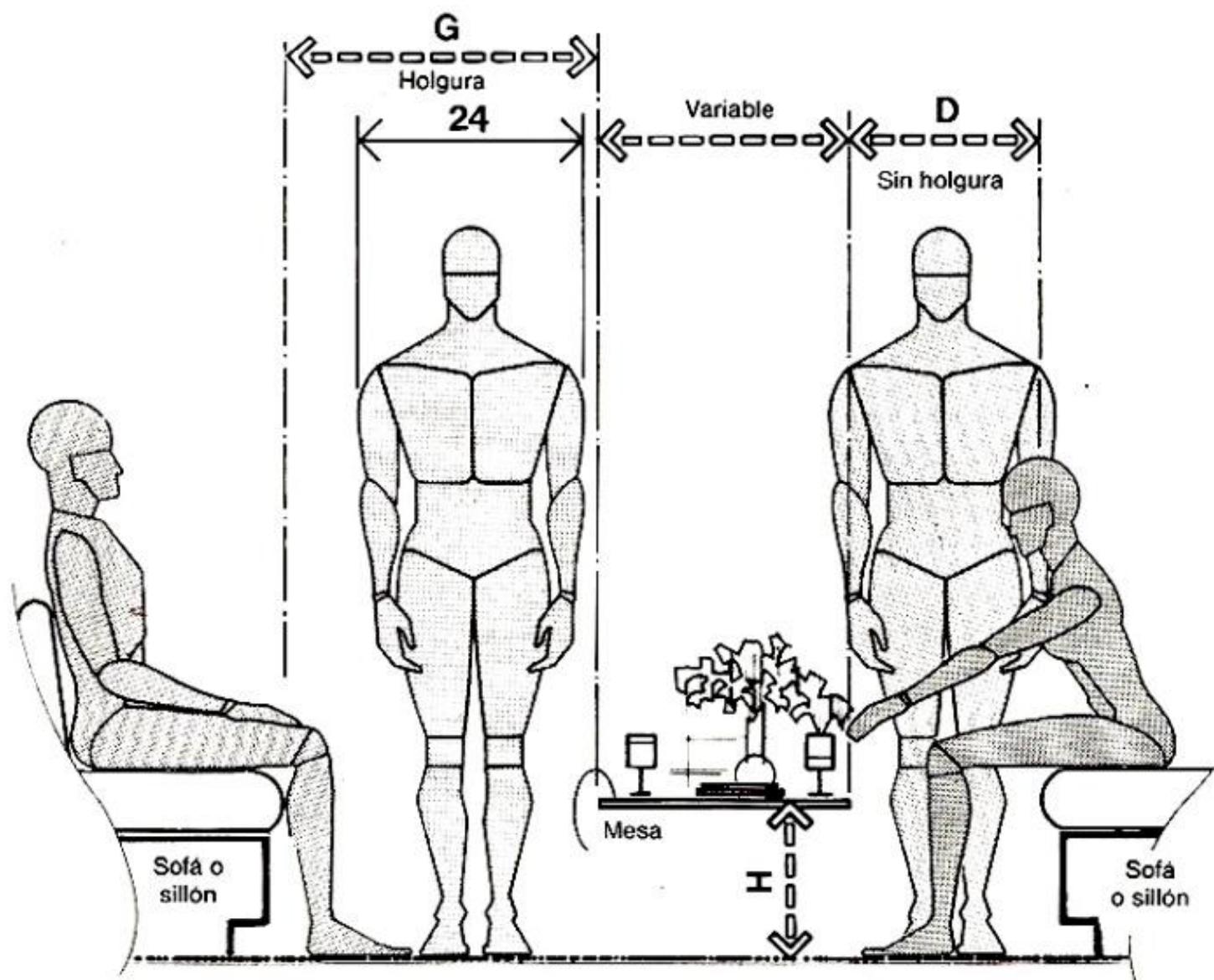


SILLON RINCONERA/CIRCULACION

	cm.
A	86,4 – 101,6
B	71,1
C	106,7 – 121,9
D	15,2 – 22,9
E	7,6
F	81,3 – 96,5
G	66,0
H	101,6 – 116,8
I	121,9 – 152,4
J	7,6 – 15,2

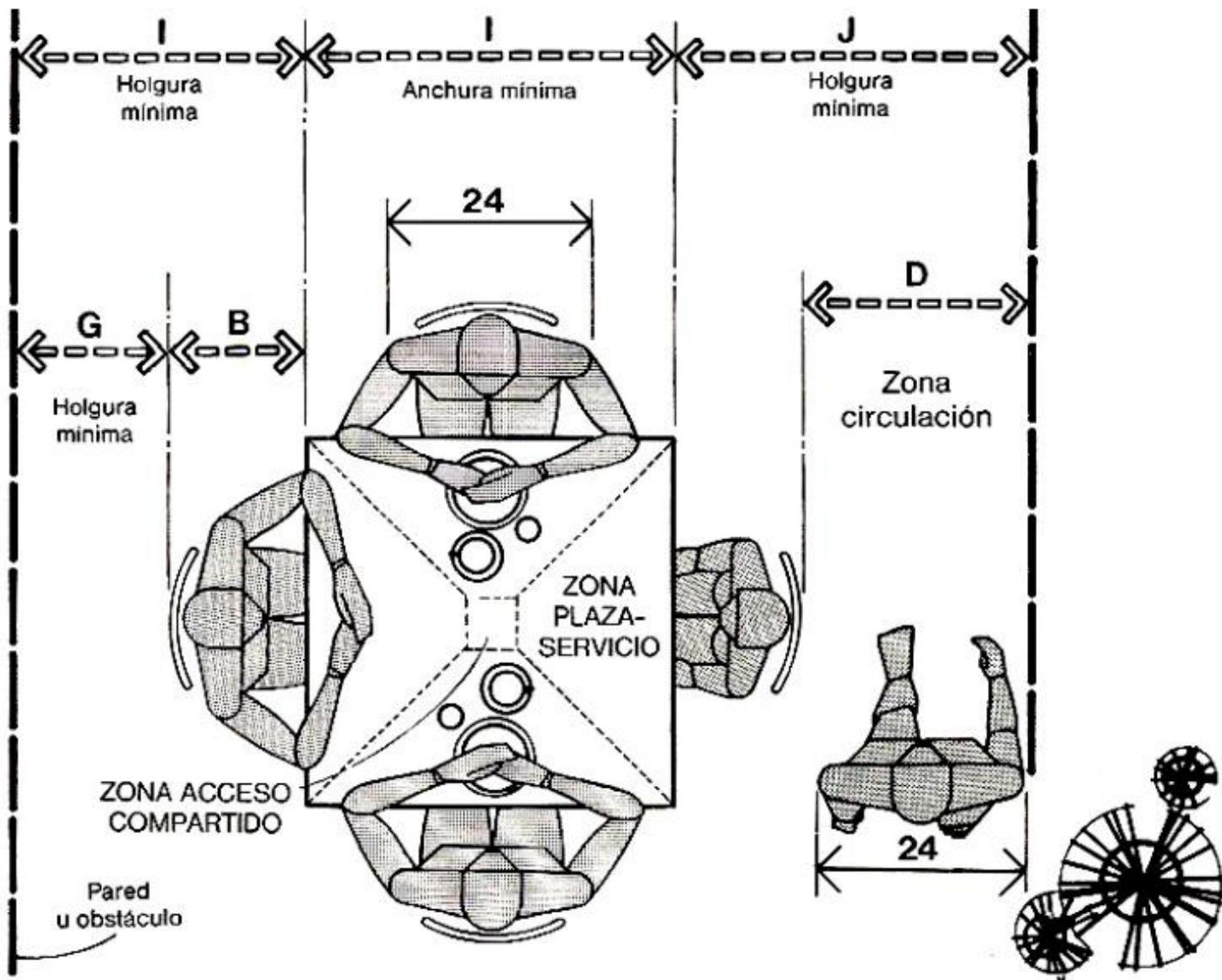


ASIENTOS ESTAR/HOLGURAS



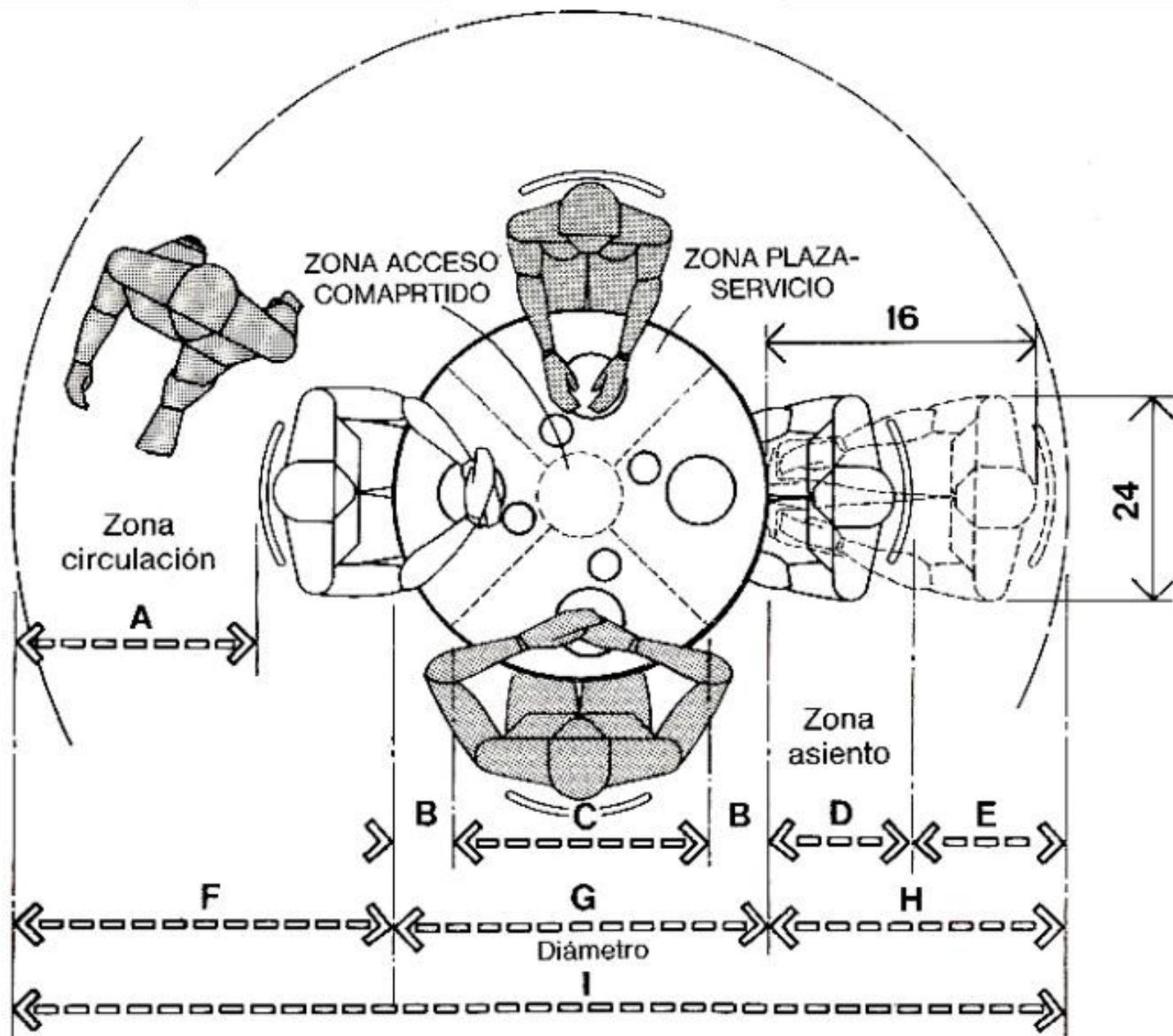
ASIENTOS ESTAR/RELACIÓN HOLGURAS

	cm.
A	213,4 – 284,5
B	33,0 – 40,6
C	147,3 – 203,2
D	40,6 – 45,7
E	35,6 – 43,2
F	30,5 – 45,7
G	76,2 – 91,4
H	30,5 – 40,6
I	152,4 – 172,7
J	137,2 – 157,5



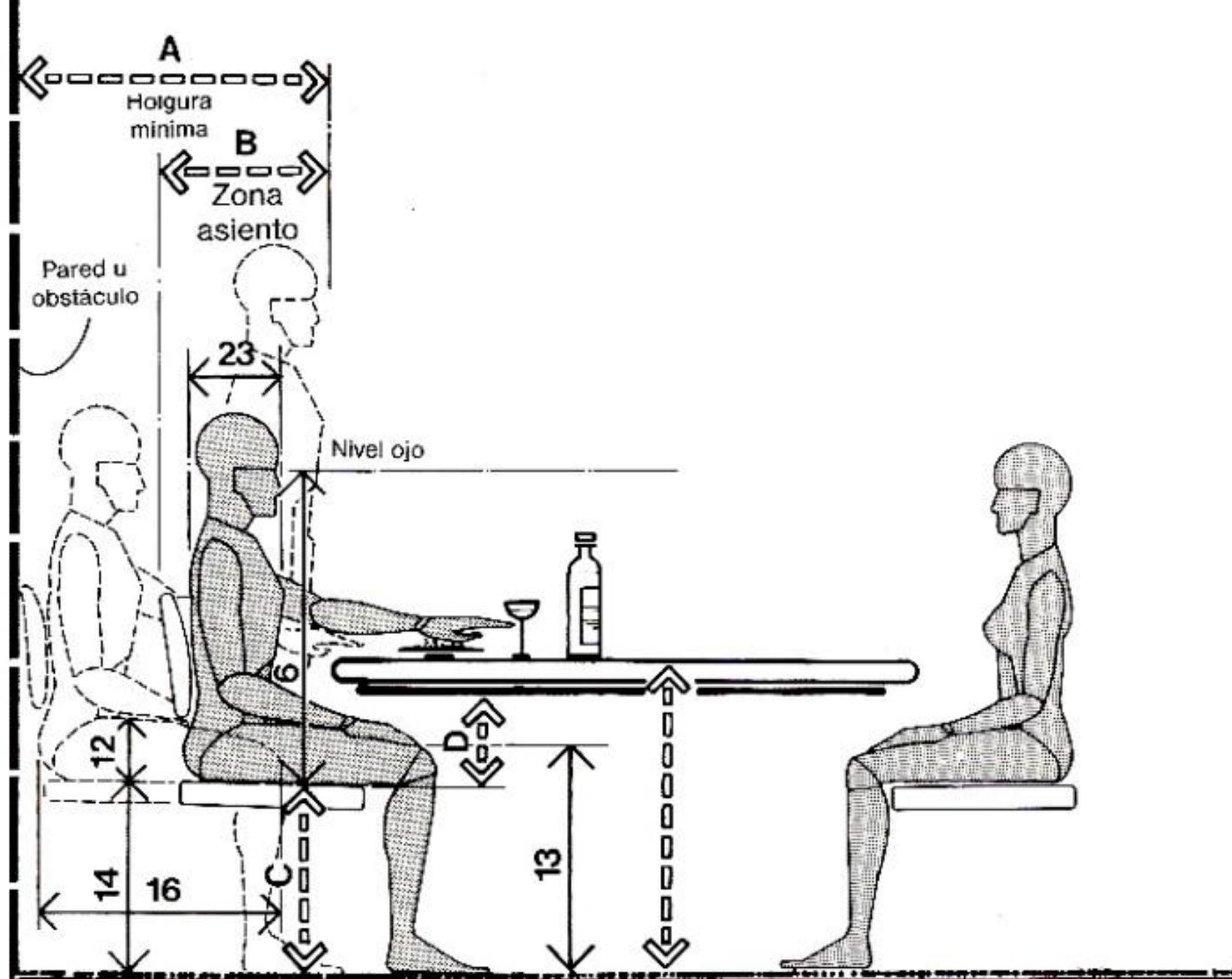
	cm.
B	45,7 – 61,0
D	76,2
G	45,7
I	91,4 – 106,7
J	121,9 min.

MESA DE DESAYUNO/COCINA PARA CUATRO PERSONAS

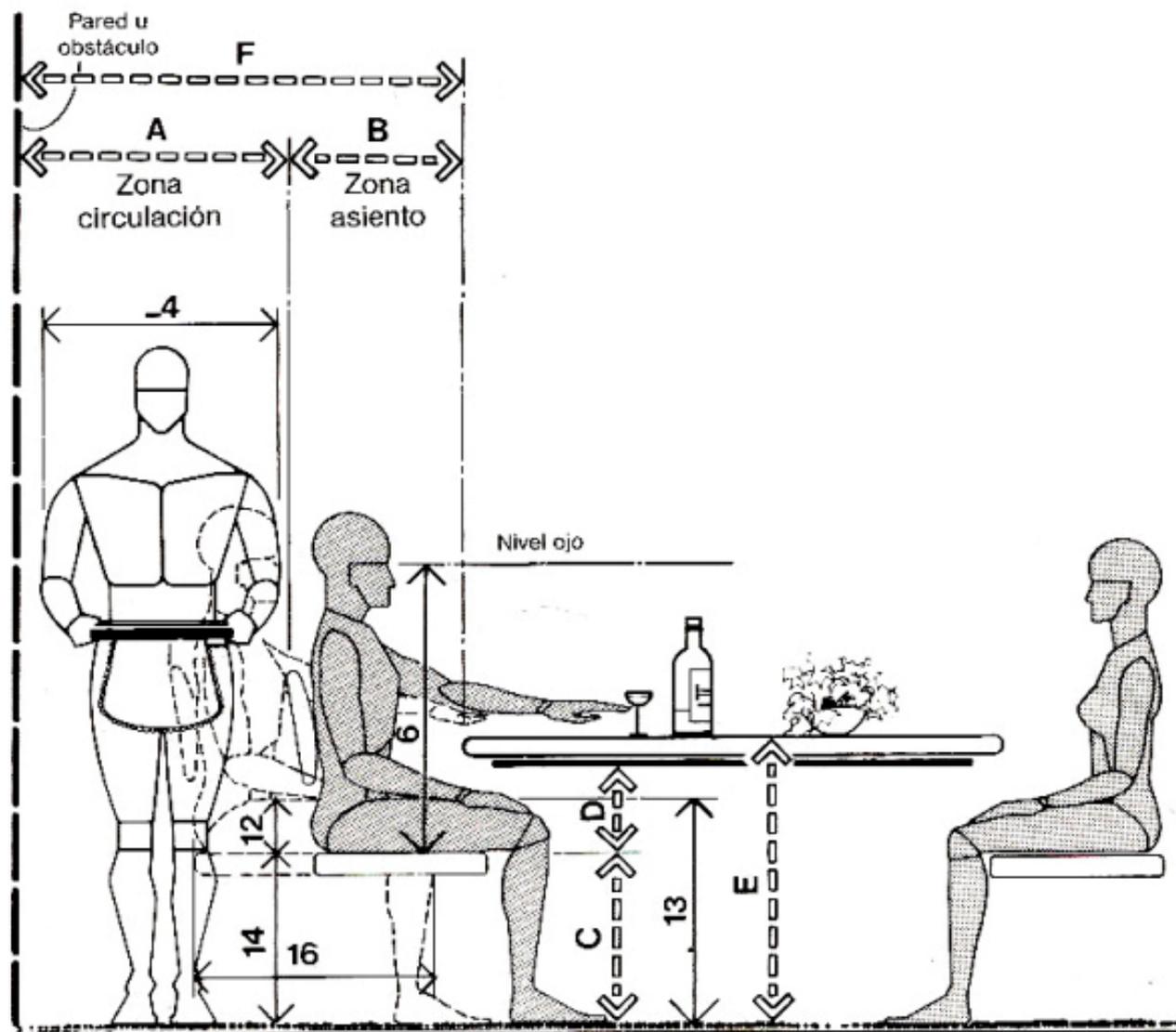


	cm.
A	76,2 min.
B	15,2
C	61,0
D	45,7 – 61,0
E	30,5
F	121,9 – 137,2
G	91,4
H	76,2 – 91,4
I	289,6 – 320,0

MESA CIRCULAR DE DESAYUNO/COCINA PARA CUATRO PERSONAS, DIÁMETRO 91,4 cm (36 pulgadas)



HOLGURA MÍNIMA PARA SILLA/SIN CIRCULACIÓN



	cm.
A	76,2 – 91,4
B	45,7 – 61,0
C	40,6 – 43,2
D	19,1 min.
E	73,7 – 76,2
F	121,9 – 152,4

HOLGURA MÍNIMA DETRÁS DE LA SILLA

Problemas de la antropometría

La antropometría es problemática porque las variaciones desde lo normal.

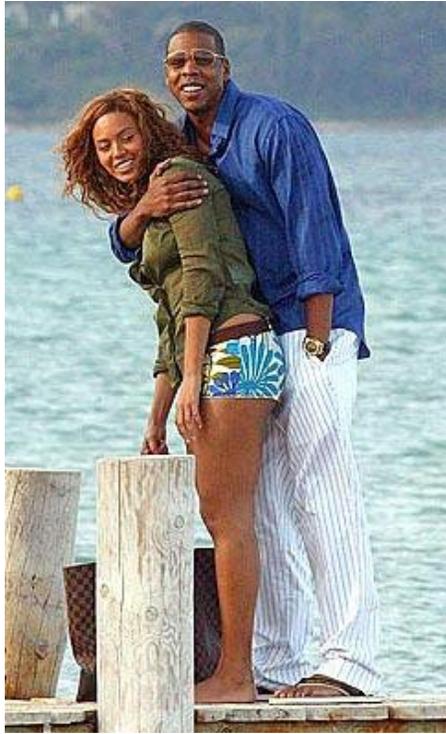


Variaciones entre individuos



Variaciones entre grupos raciales

Why is Anthropometry problematic?



- **Variaciones entre individuos de género**



Variaciones de edad