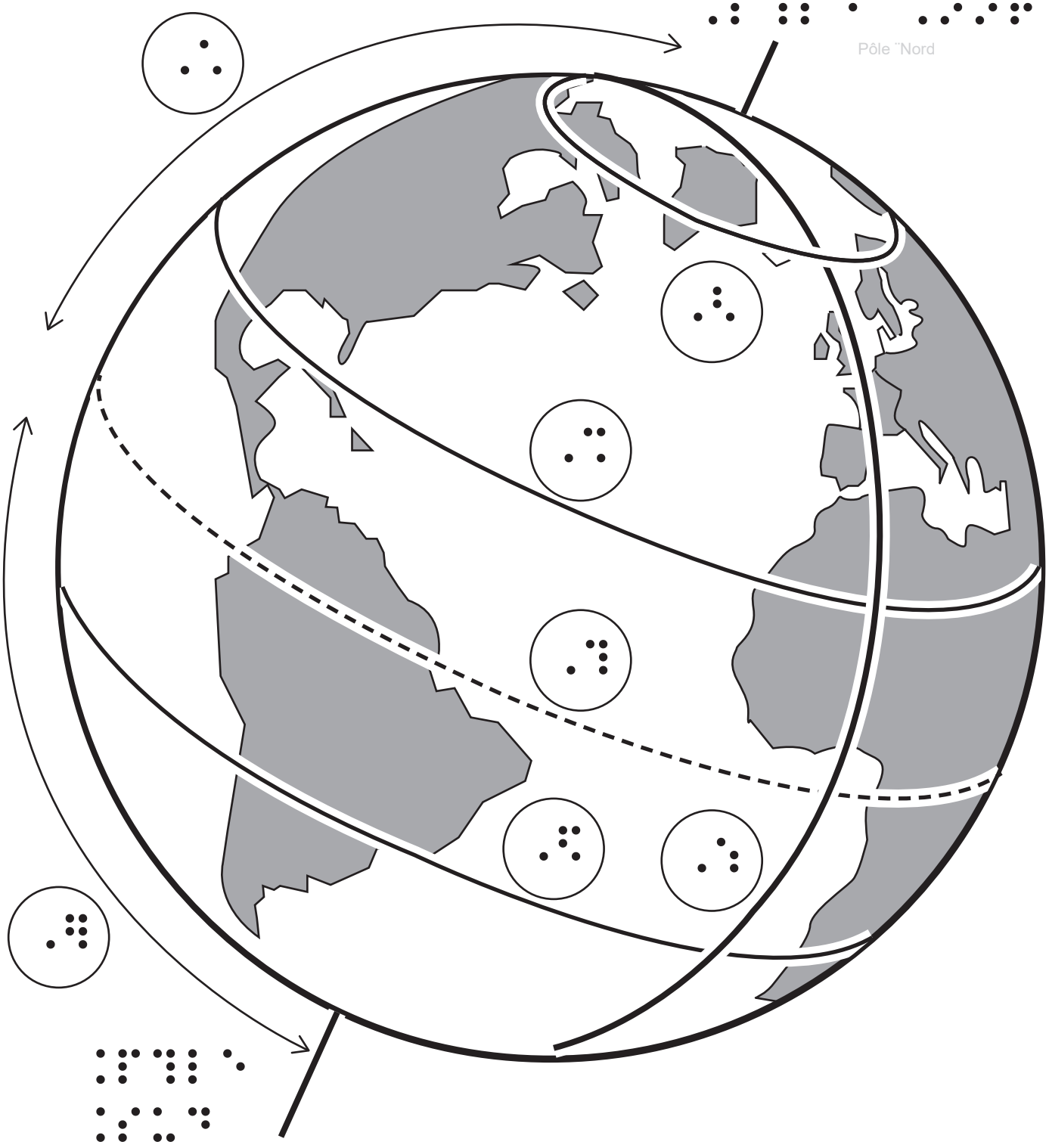

Pôle Nord
Pôle Sud

Légendes

Hémisphère Nord

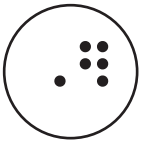
Cercle polaire arctique

Tropique du Cancer

Équateur

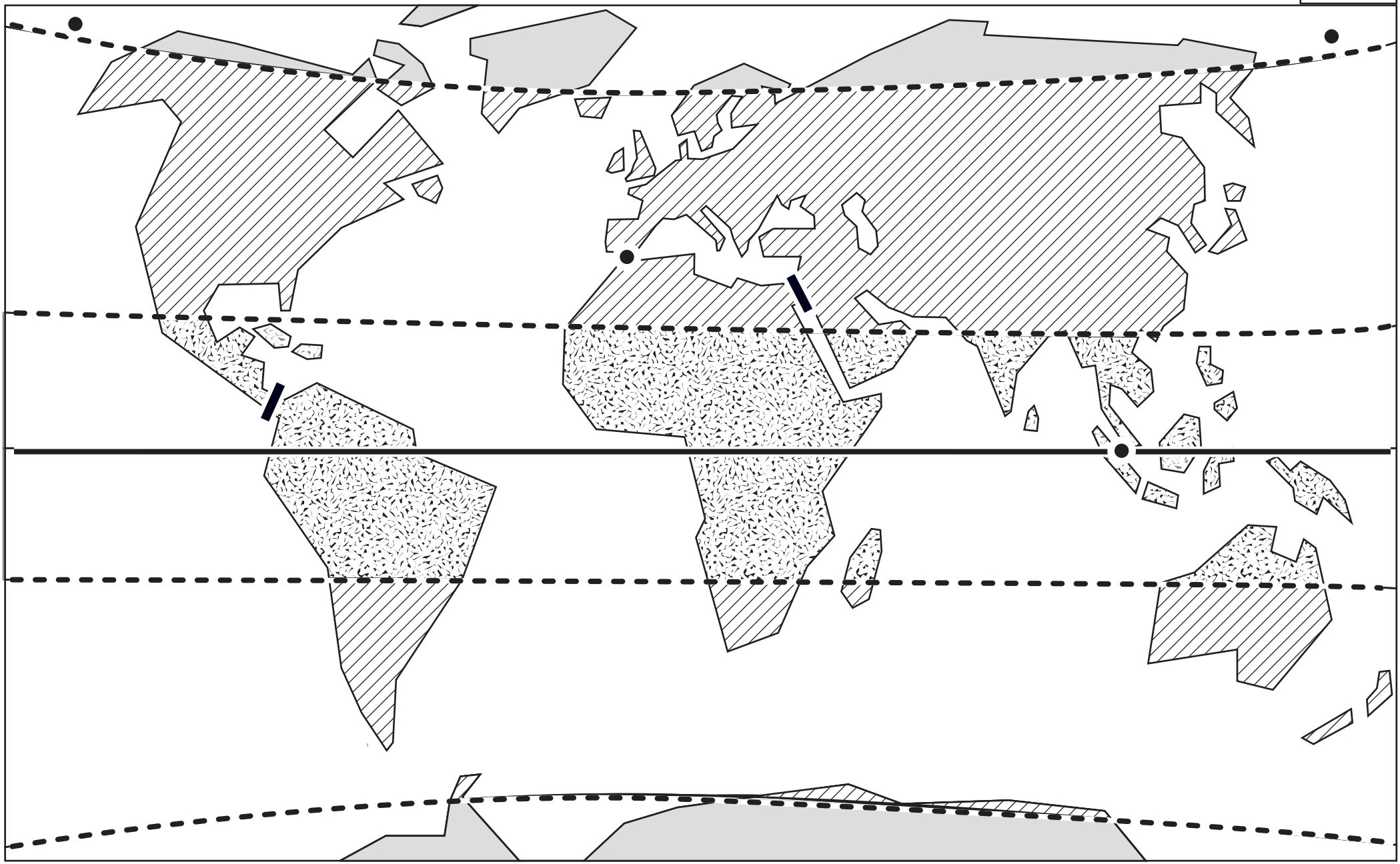
Méridien due Greenwich

Tropique du Capricorne



Hémisphère Sud

DER 2: Les principales zones climatiques de la planète



2021/2022 - Service Transcription - www.ctrdv.fr

Légende:

zones froides
(climats polaire, montagnard)

zones tempérées
(climats océanique, continental)

zones chaudes
(climats équatorial, tropical, désertique)

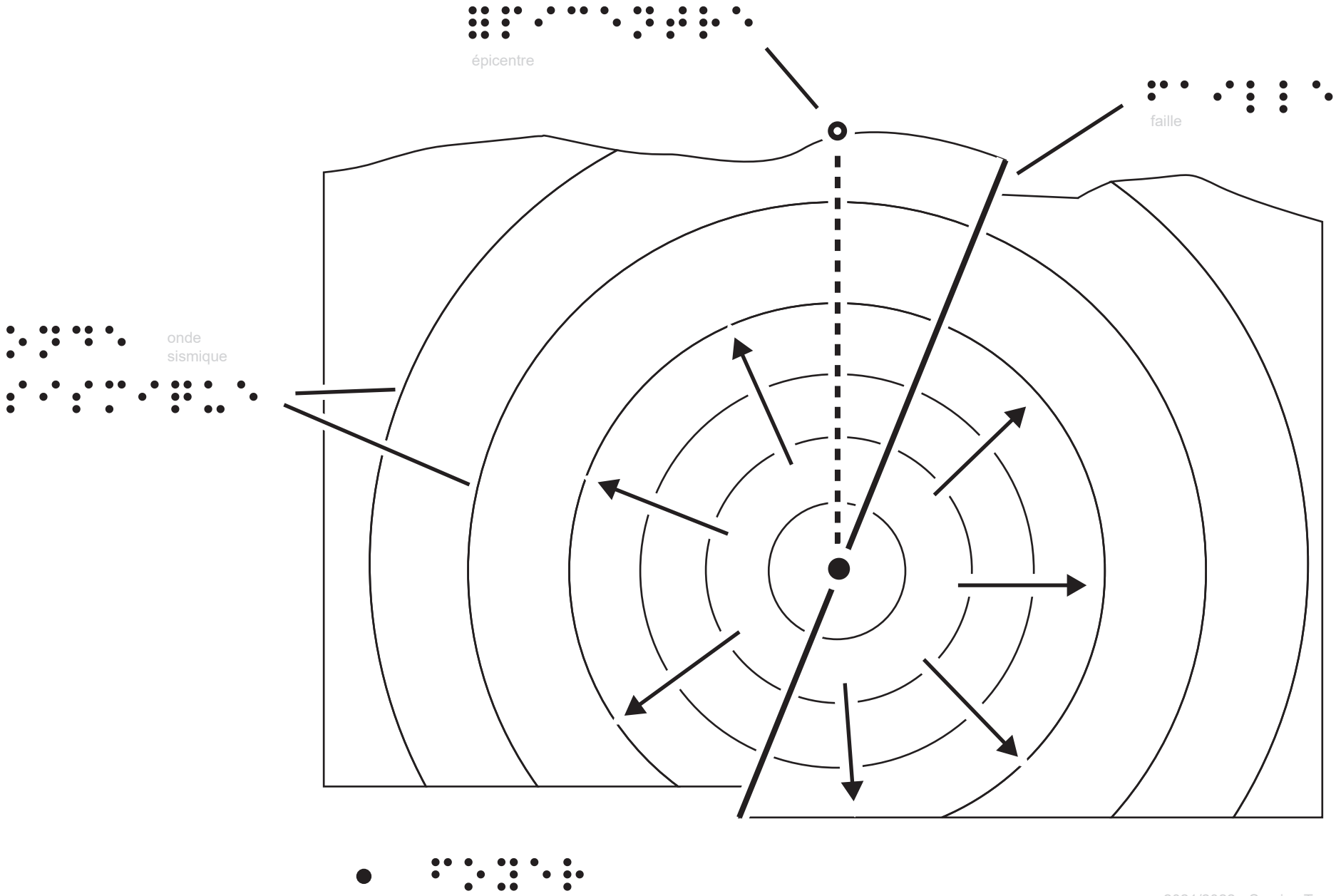
Isthmes:

Isthme de Panama

Isthme de Suez

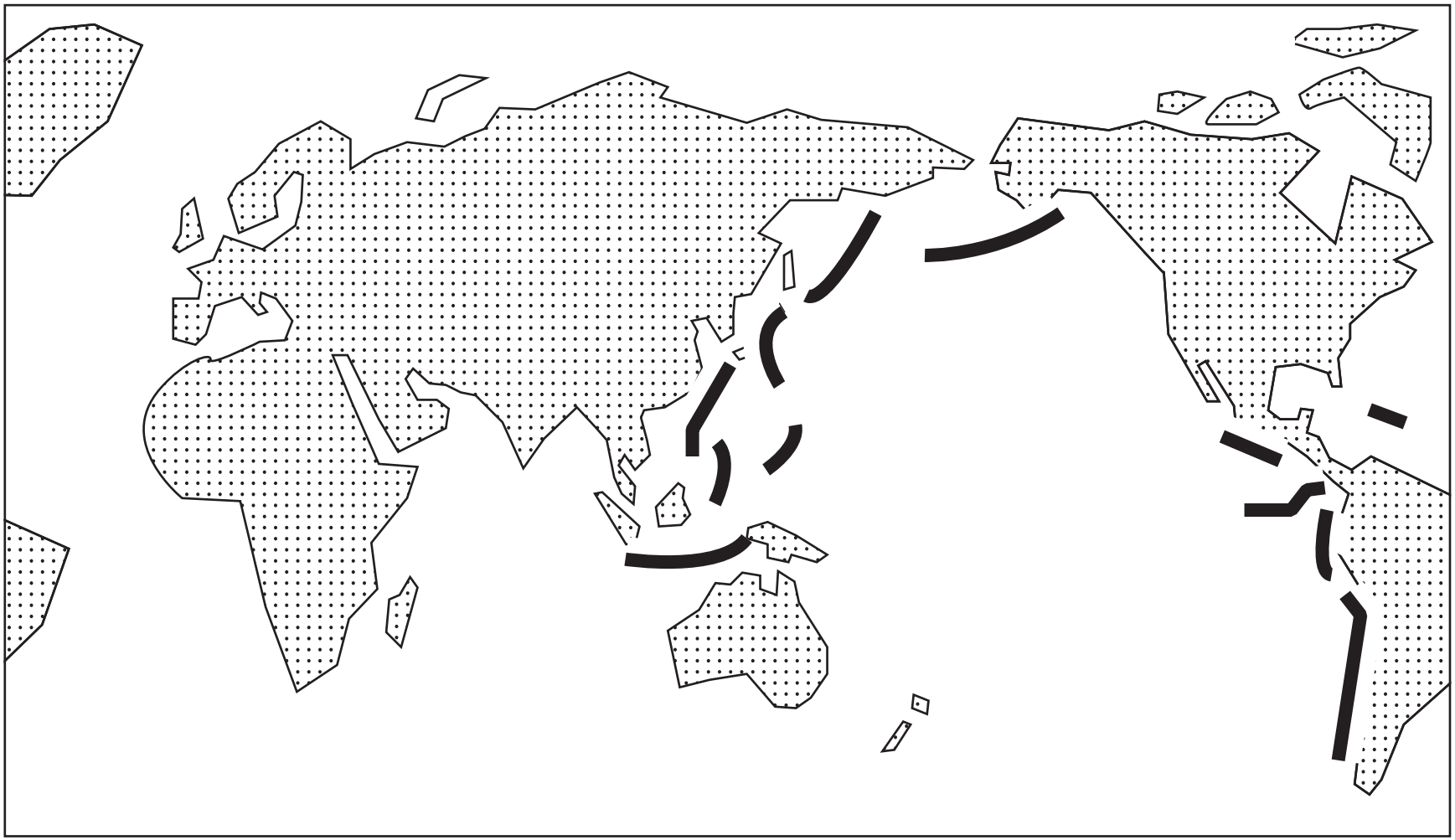
détroits:
détroit de Béring
détroit de Gibraltar
détroit de Malacca

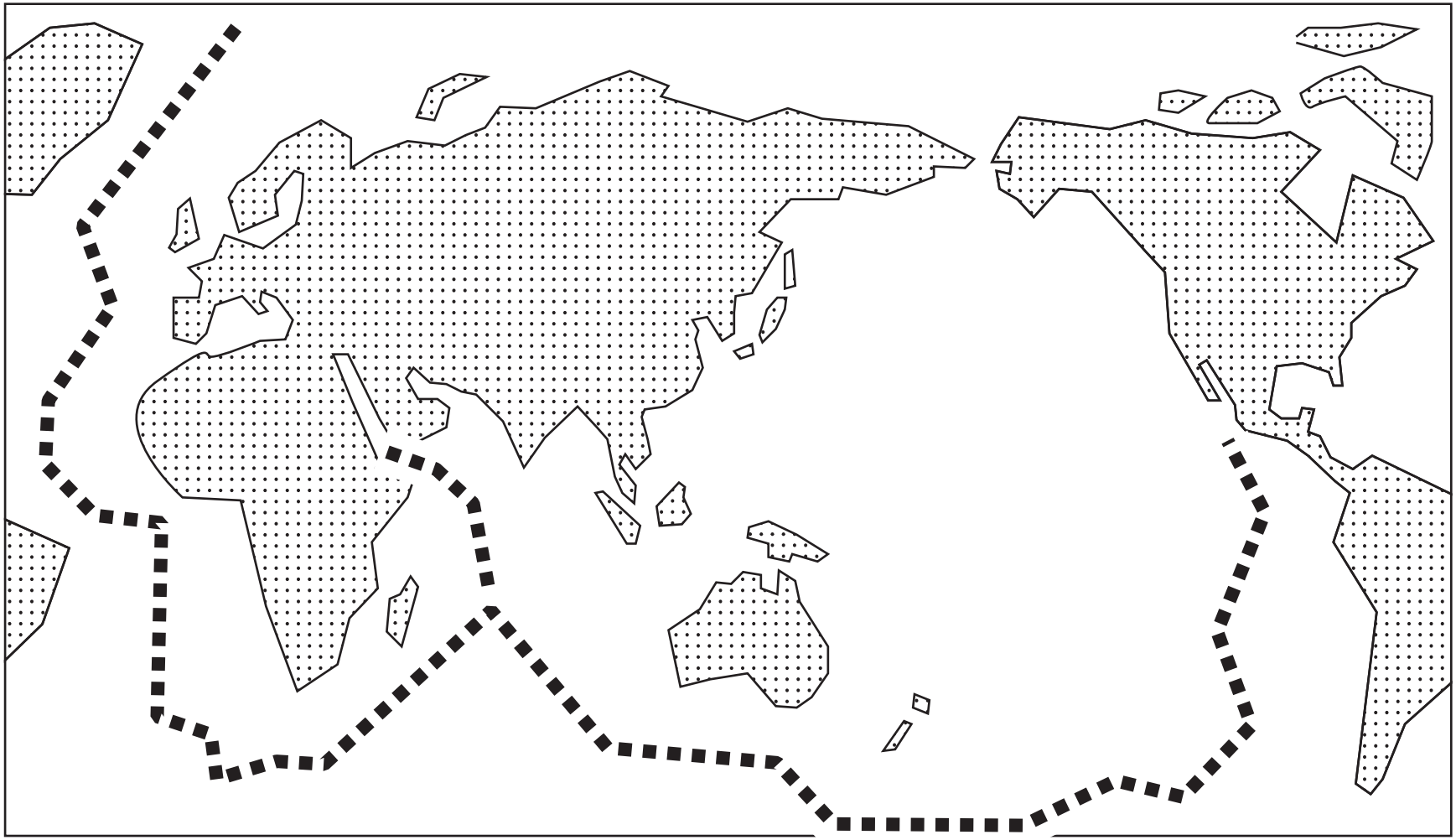
DER 3: Schématisation d'un séisme



DER 4: Carte de répartition des séismes

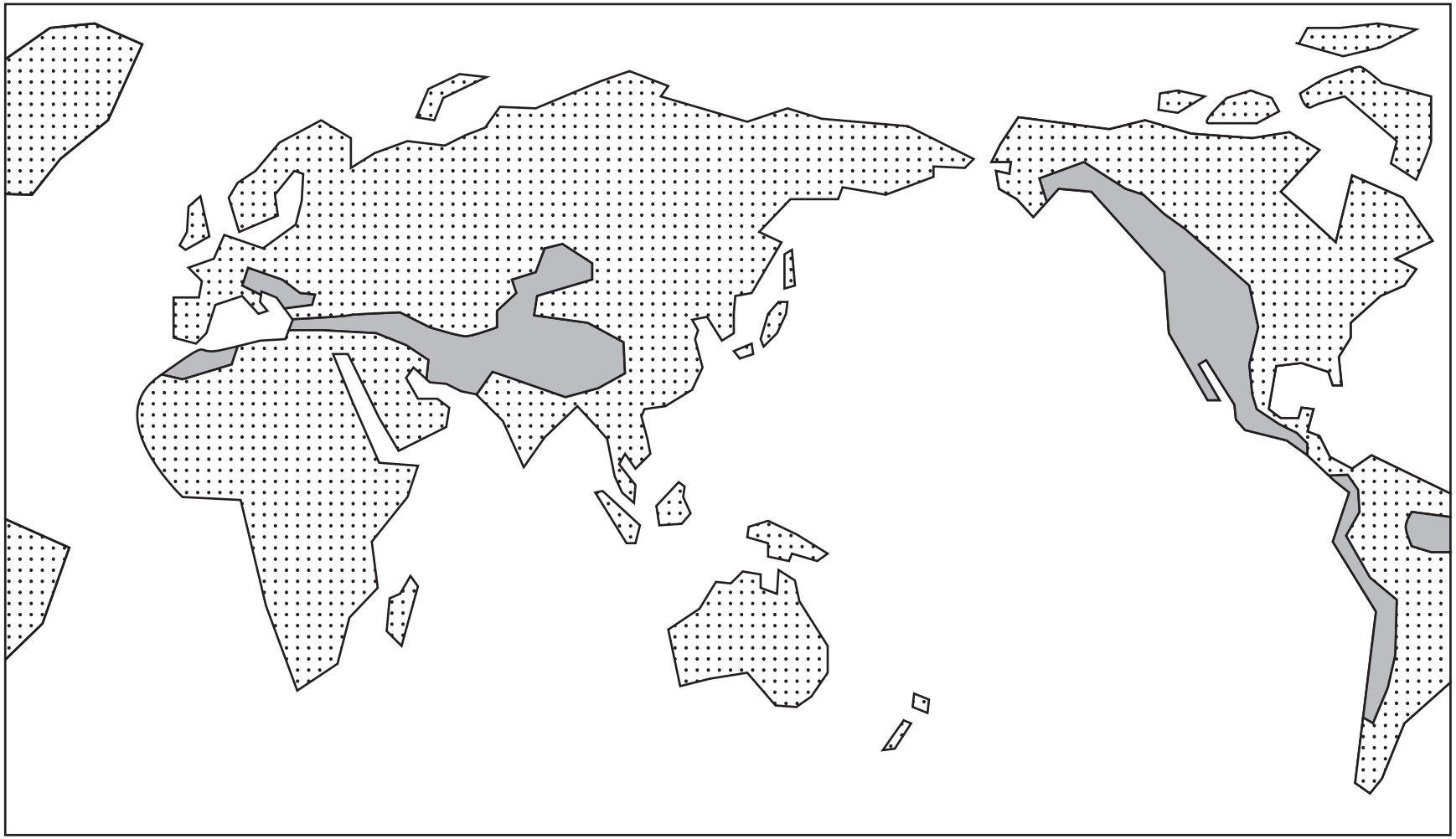
- fosses océaniques





⠠⠍⠁⠏⠍⠕⠝⠙⠑

- principales zones montagneuses



séismes

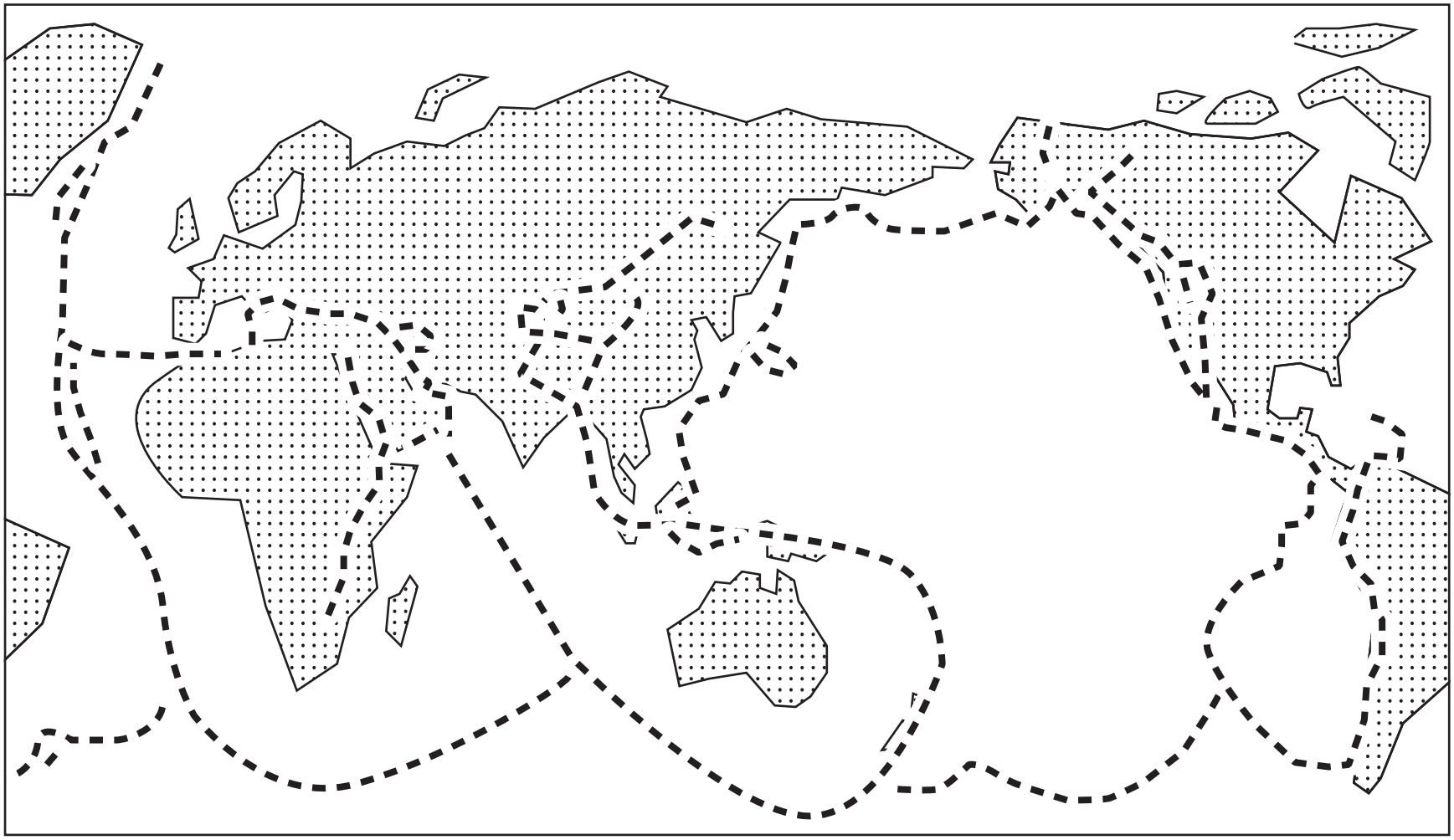


Schéma d'un volcan effusif

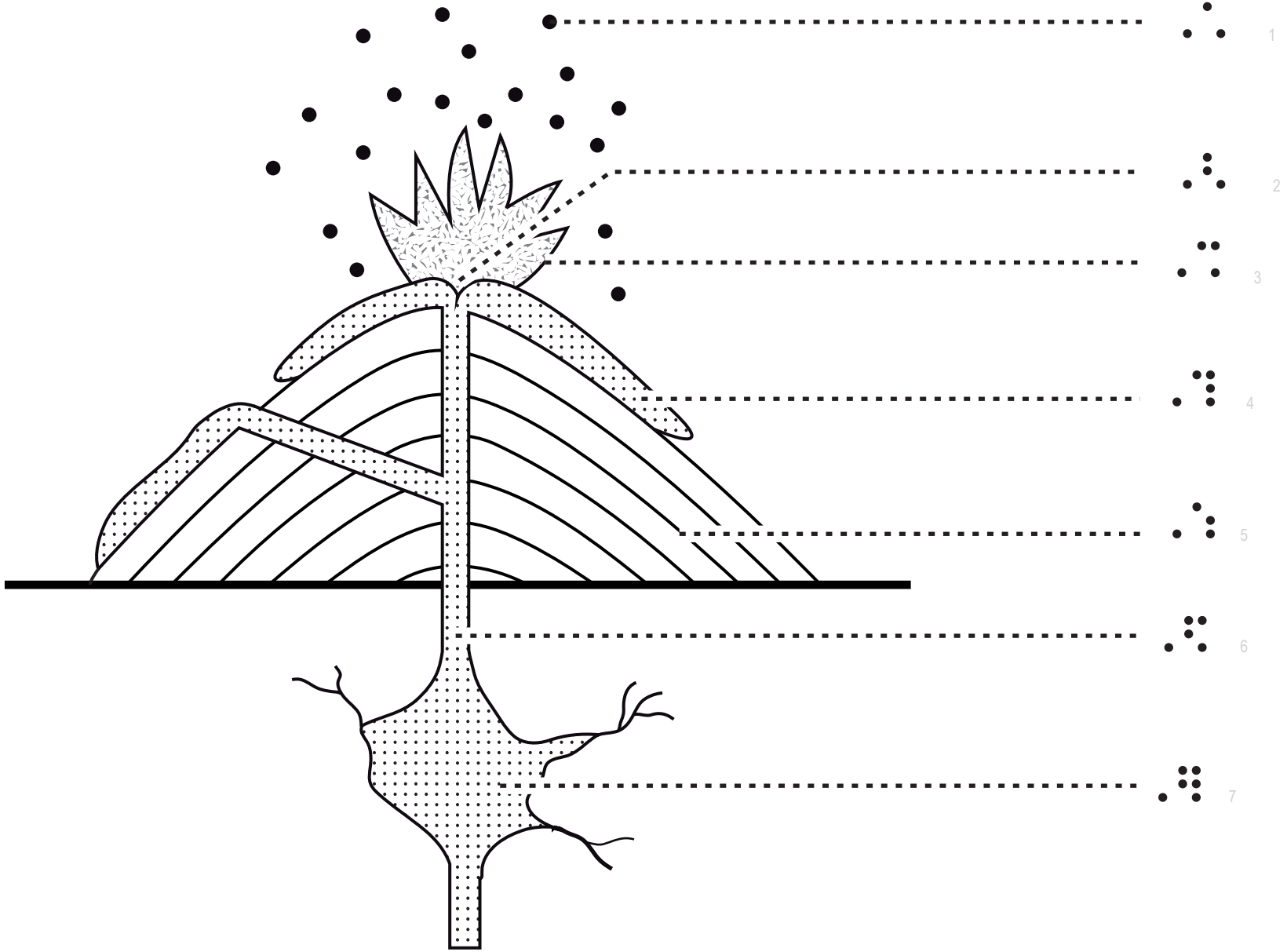
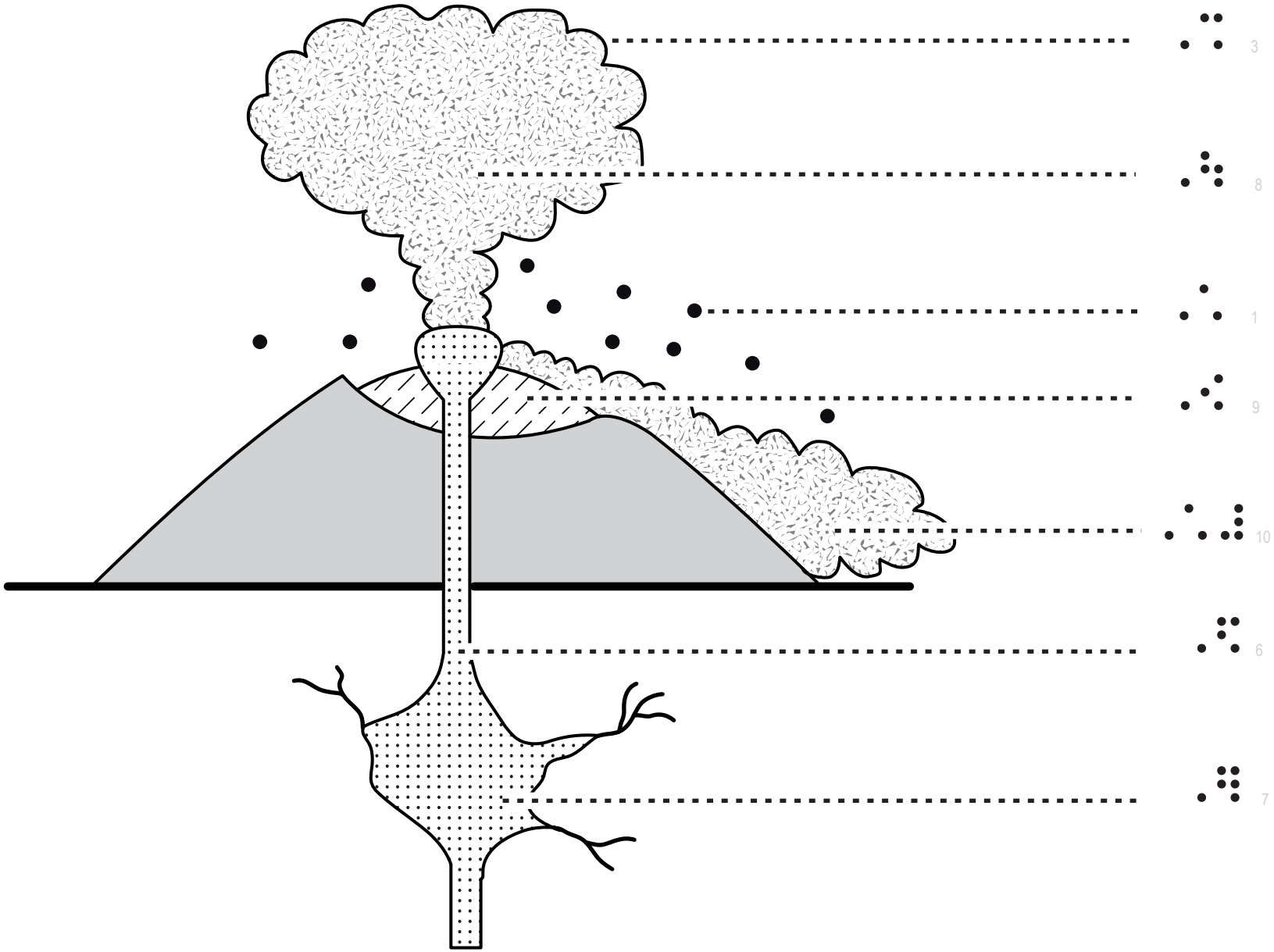
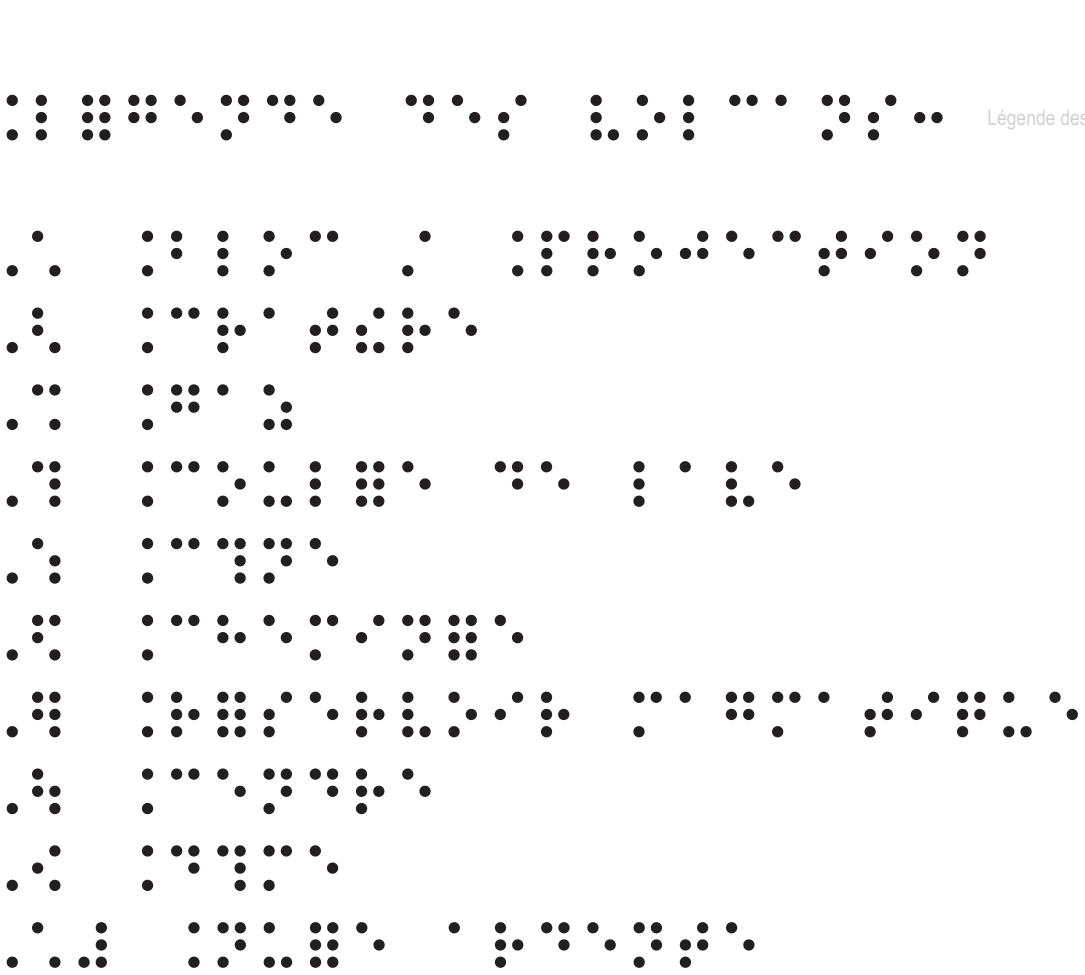


Schéma d'un volcan explosif



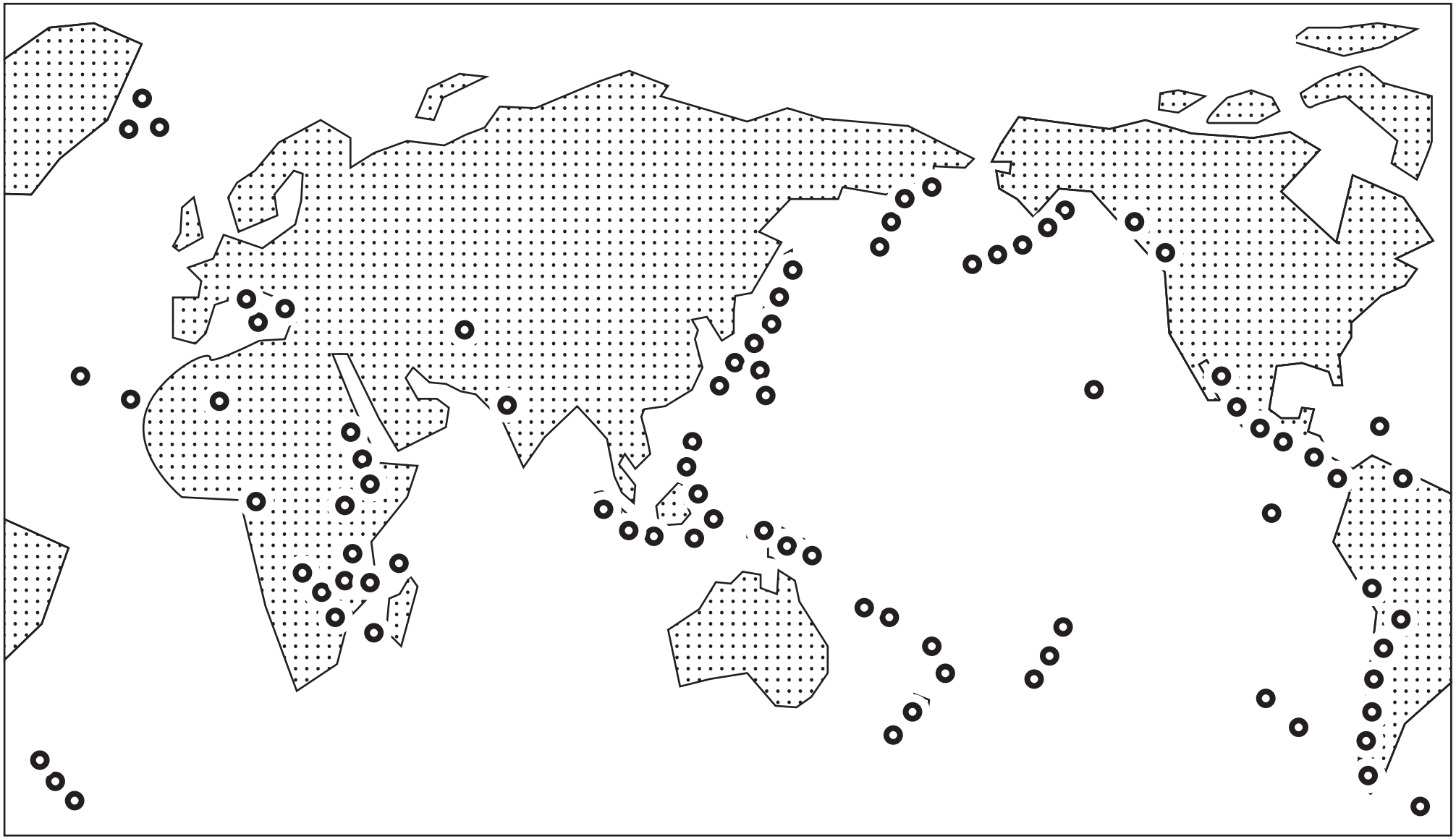


Légende des volcans :

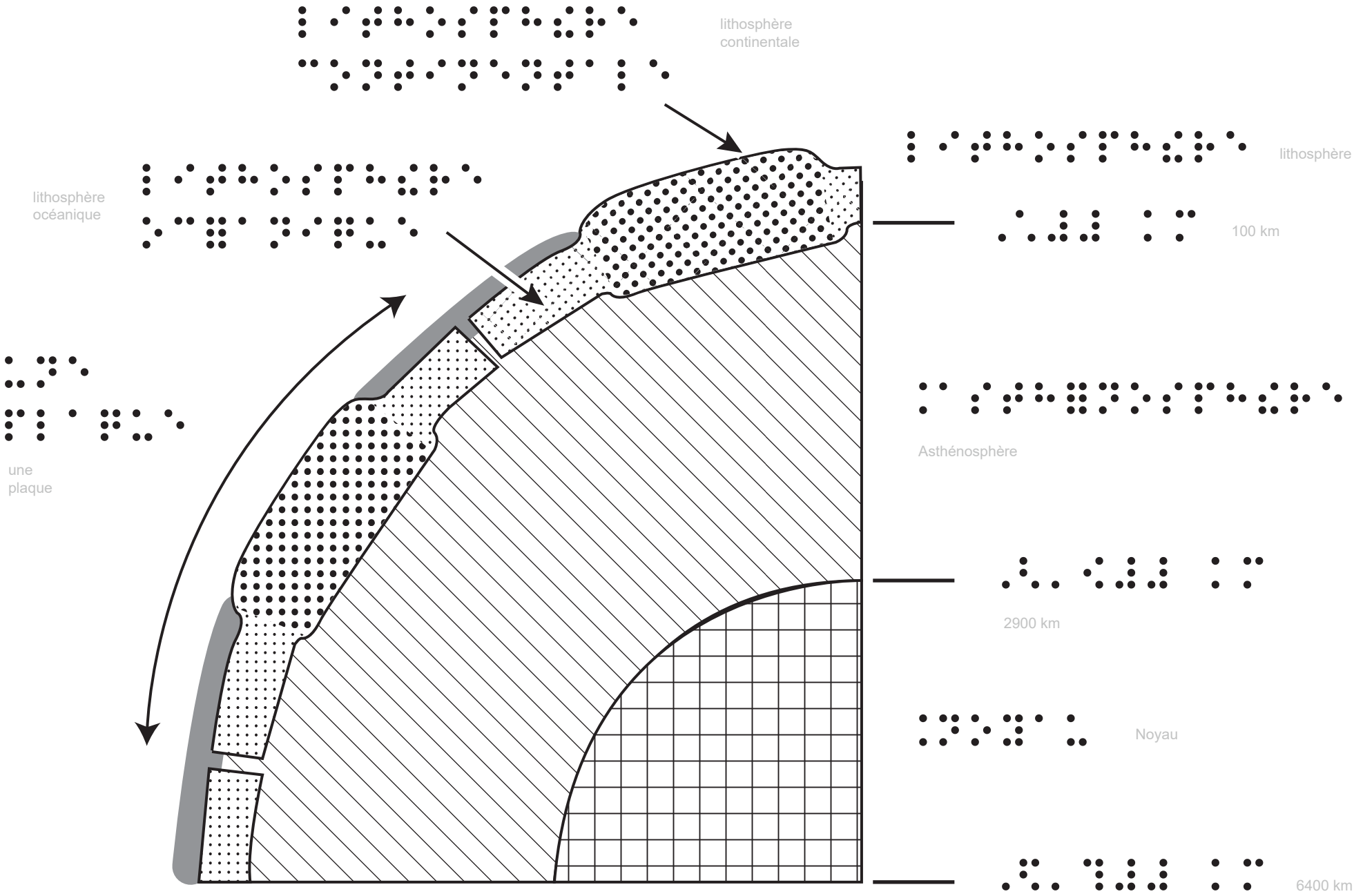
1 Bloc / Projection
2 Cratère
3 Gaz
4 Coulée de lave
5 Cône
6 Cheminée
7 Réservoir magmatique
8 Cendre
9 Dôme
10 Nuée ardente

DER 6: Carte de répartition des volcans

volcans



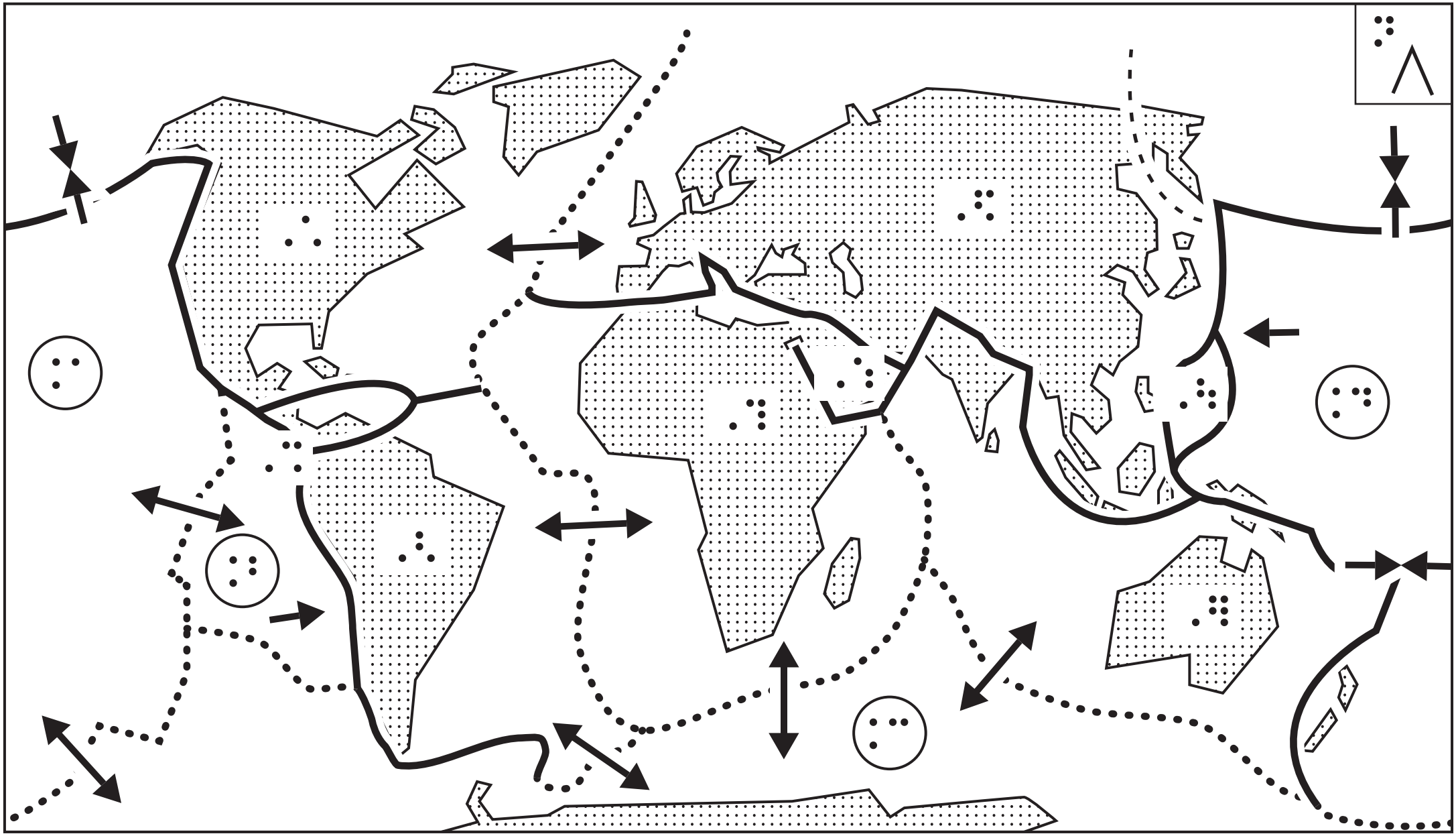
DER 7: La structure de la Terre



2021-2022 - Service Transcription - www.ctrdv.fr

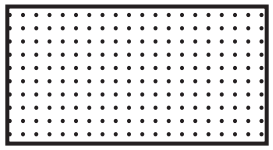
⠠⠍⠕⠥⠧⠑⠍⠑⠝⠞⠎ ⠁⠥⠭ ⠇⠊⠍⠊⠞⠑⠎ ⠙⠑⠎ ⠏⠇⠁⠟⠥⠑⠎ ⠇⠊⠞⠓⠕⠎⠏⠓⠑⠗⠊⠟⠥⠑⠎

DER 8: Mouvements aux limites des plaques lithosphériques



2021-2022 - Service Transcription - www.ctrdv.fr

Légende



Continents

Plaques contientales

plaques océaniques

écartement des plaques

rapprochement des plaques

2021-2022 - Service Transcription - www.ctrdv.fr

1: plaque nord-américaine
2: plaque sud-américaine
3: plaque des cocos
4: plaqe africaine
5: plaque arabique
6: plaque eurasiatique
7: plaque australo-indienne
8: plaque des philippines

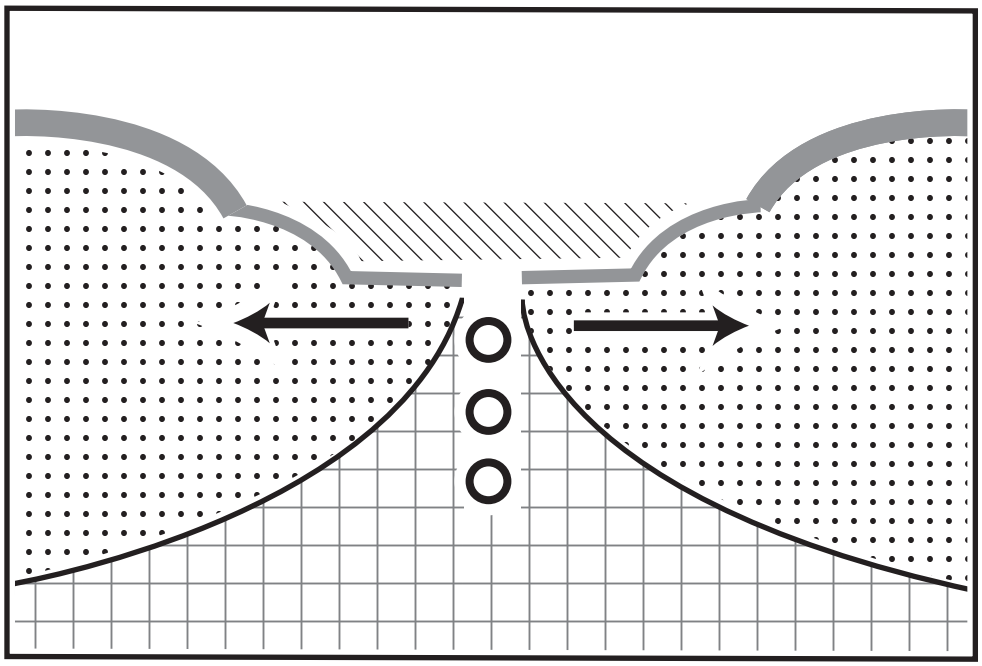
plaque pacifique

plaque de Nazca

plaque antartique

plaque pacifique

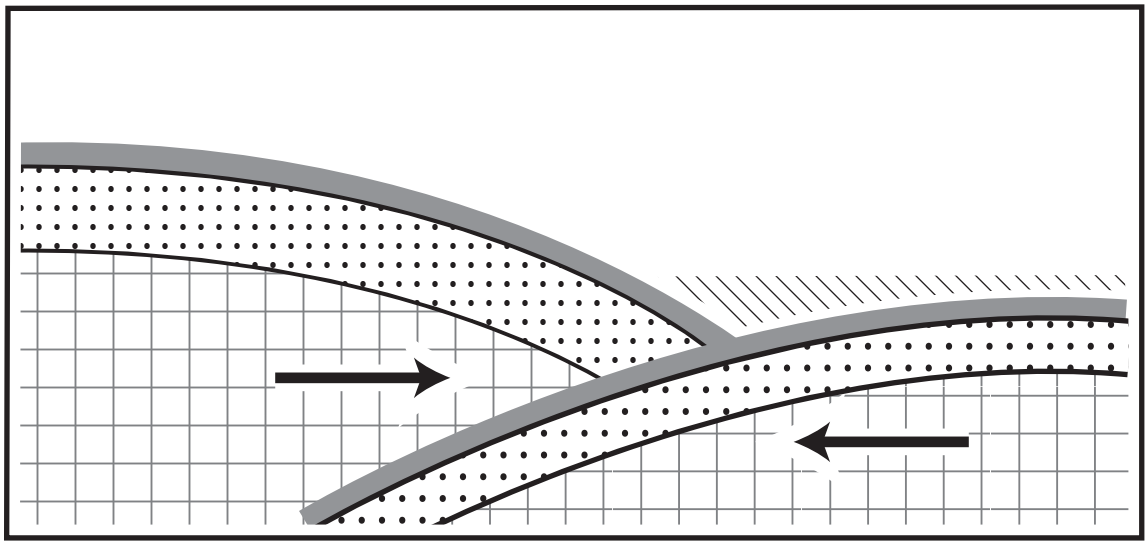
Divergence



Formation de lithosphère

Asthénosphère

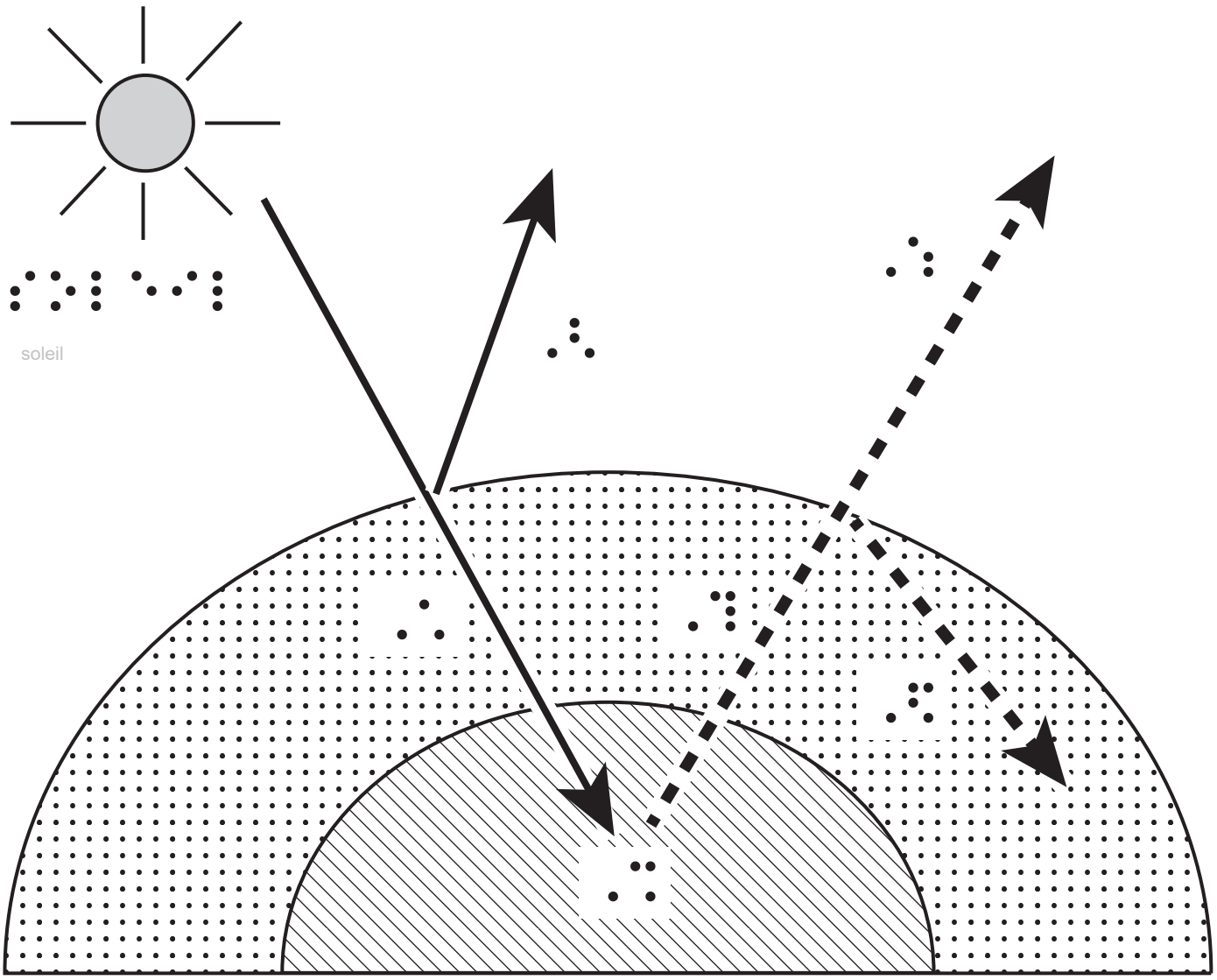
Convergence



Enfoncement de lithosphère

Asthénosphère

2021-2022 - Service Transcription - www.ctrdv.fr

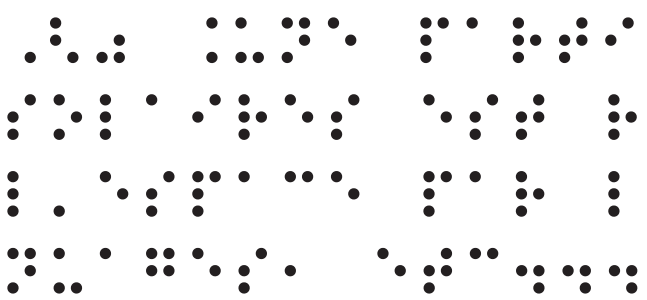


Légende

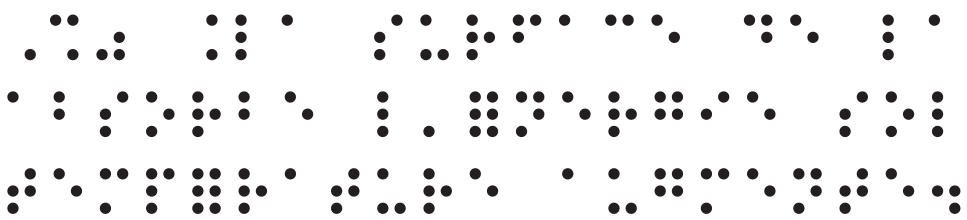
Terre

Atmosphère avec gaz à effet de serre

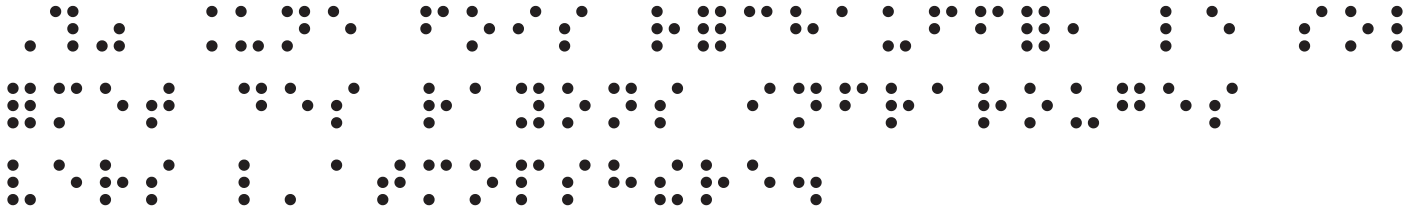
1) Une partie de rayonnement solaire traverse l'atmosphère et atteint la surface de la Terre



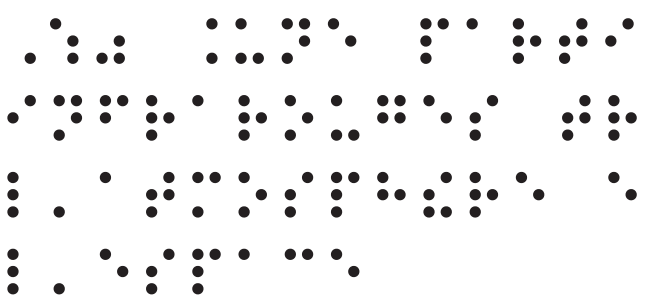
2) Une partie des rayons solaires est réfléchie vers l'espace par l'atmosphère, les nuages, etc...



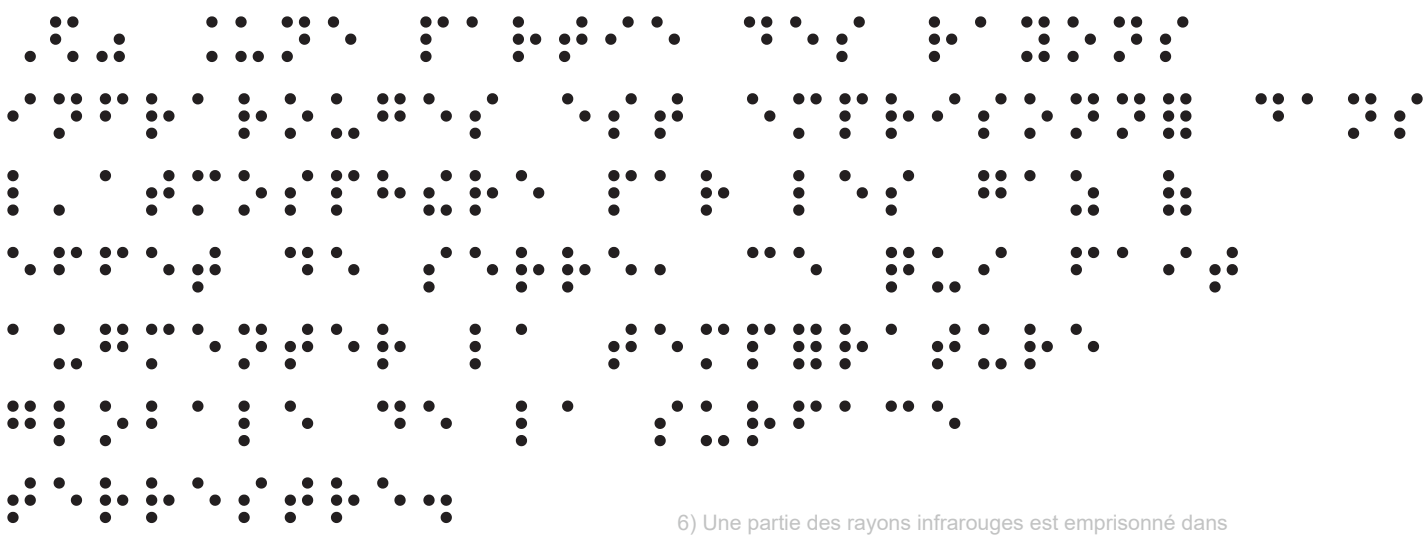
3) La surface de la Terre absorbe l'énergie solaire et sa température augmente.



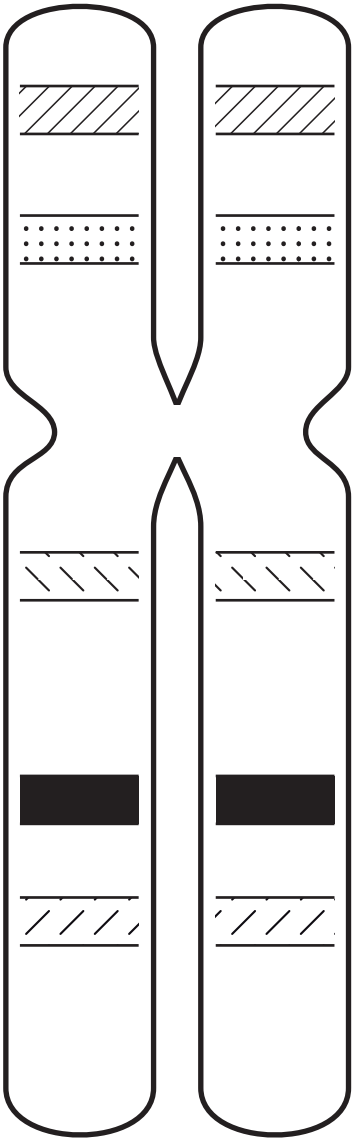
4) Une fois réchauffé, le sol émet des rayons infrarouges vers l'atmopshère.



5) Une partie des rayons infrarouges traverse l'atmosphère et se perd dans l'espace



6) Une partie des rayons infrarouges est emprisonné dans l'atmosphère par les gaz à effet de serre, ce qui fait augmenter la température globale de la surface terrestre.

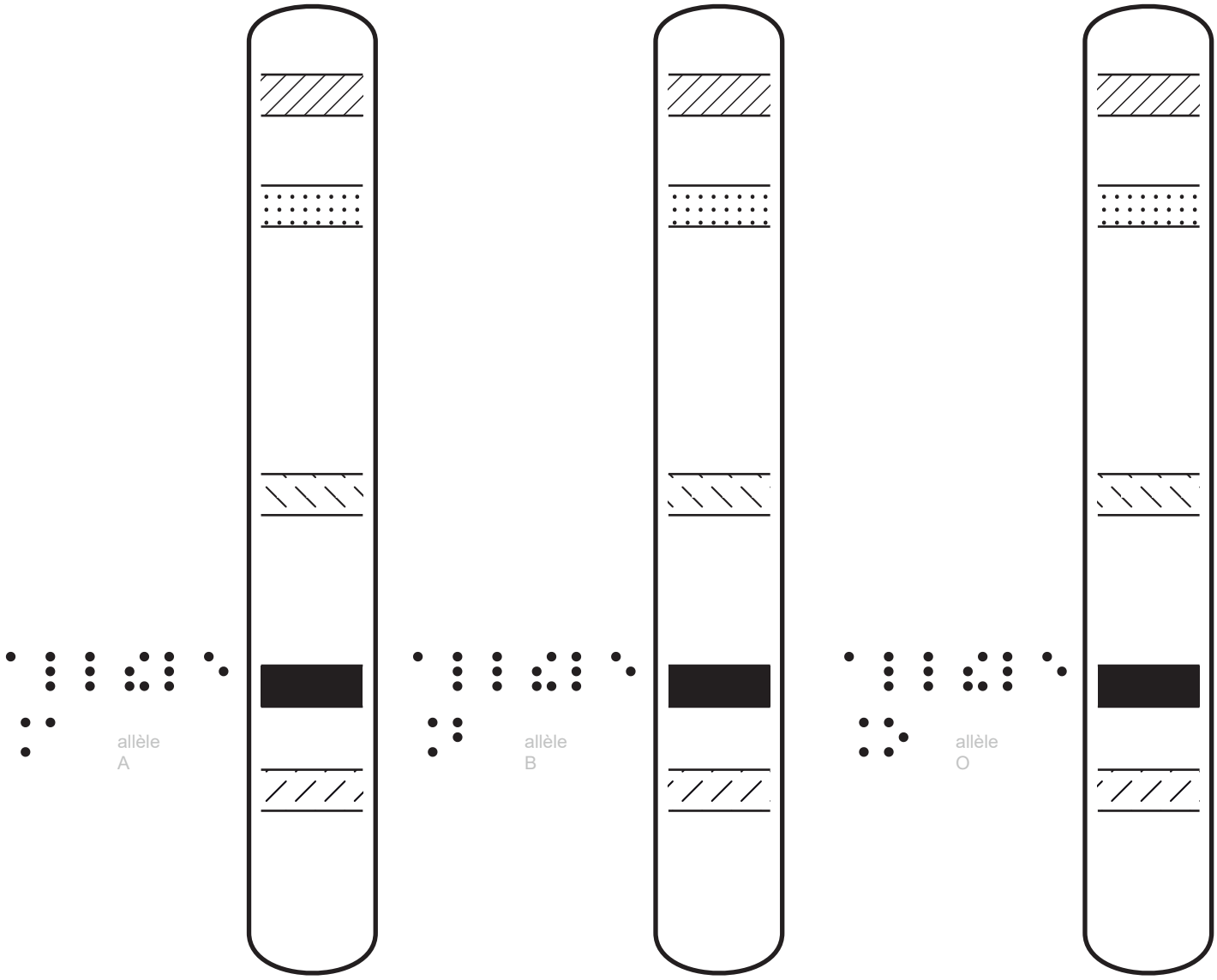


deux gènes identiques (exemple: gène du groupe sanguin)

deux chromatides identiques

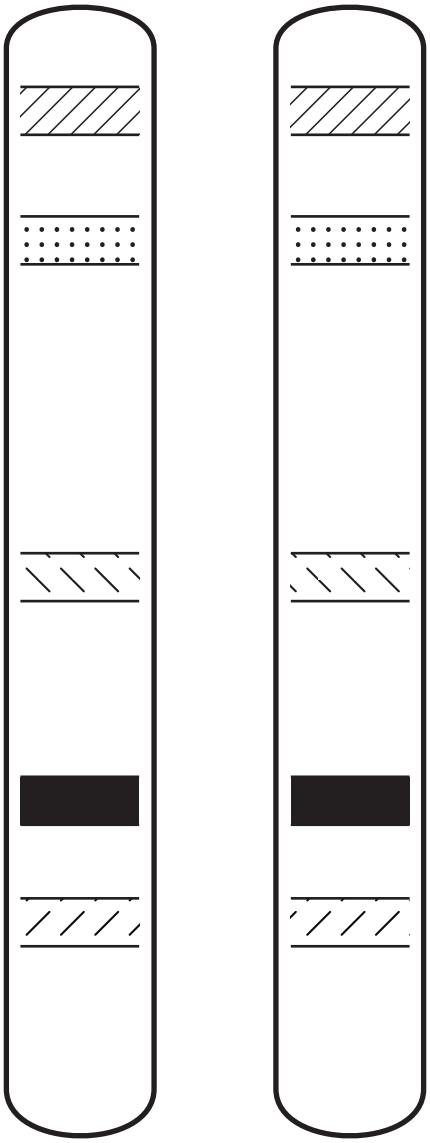
Un gène occupe la même position sur les deux chromosomes d'une paire

Un gène présente des versions différentes appelées allèles. Le gène «groupe sanguin» peut présenter la version A ou B ou O



Deux allèles identiques

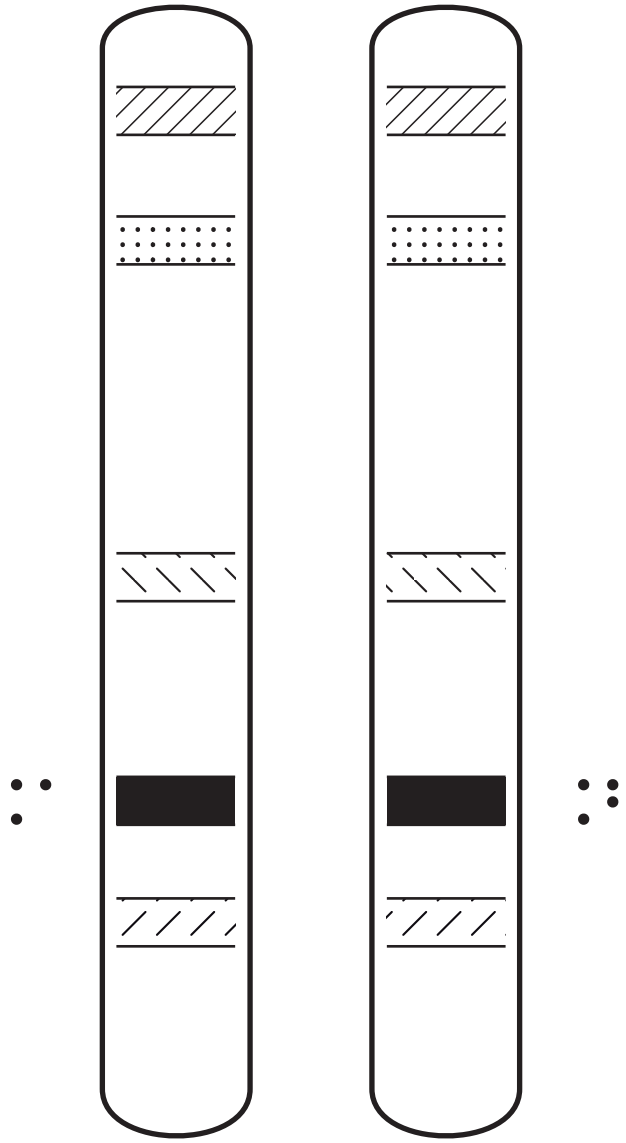
Génotype:



Phénotype: Groupe A

Deux allèles différents

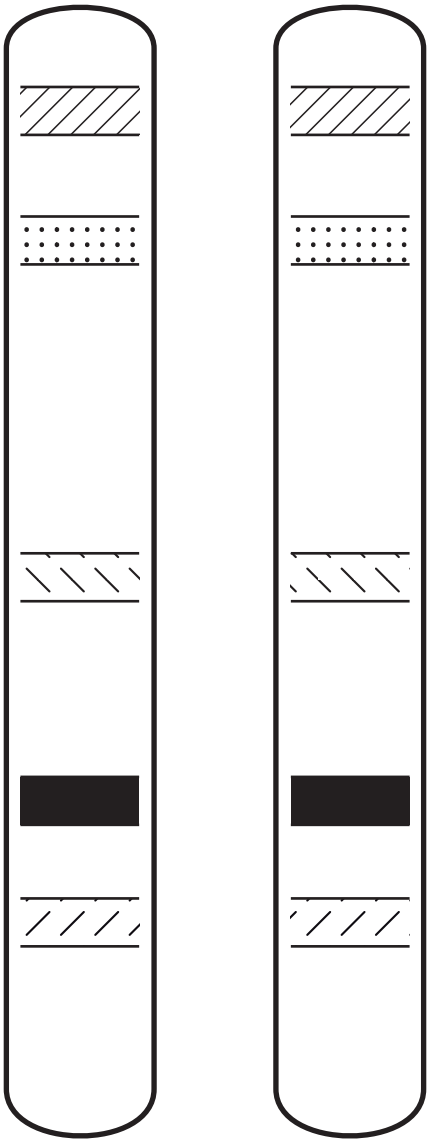
Génotype: Les deux allèles s’expriment



Phénotype: Groupe AB

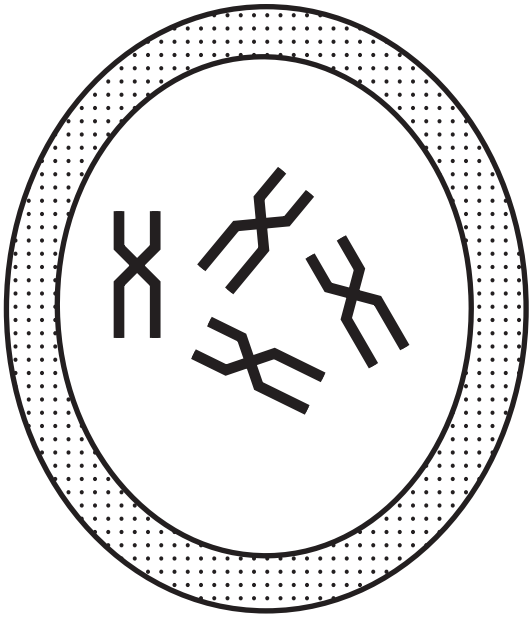
Deux allèles différents

Génotype: Un allèle s’exprime (dominant), l’autre est muet (récessif)

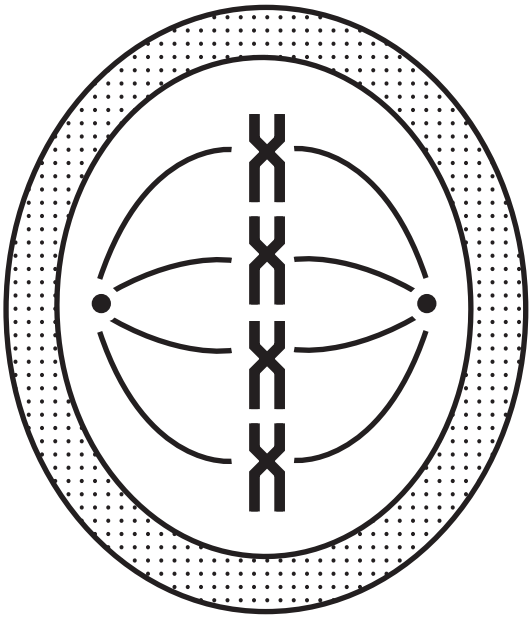


Phénotype: Groupe A

chromosome à 2 chromatides

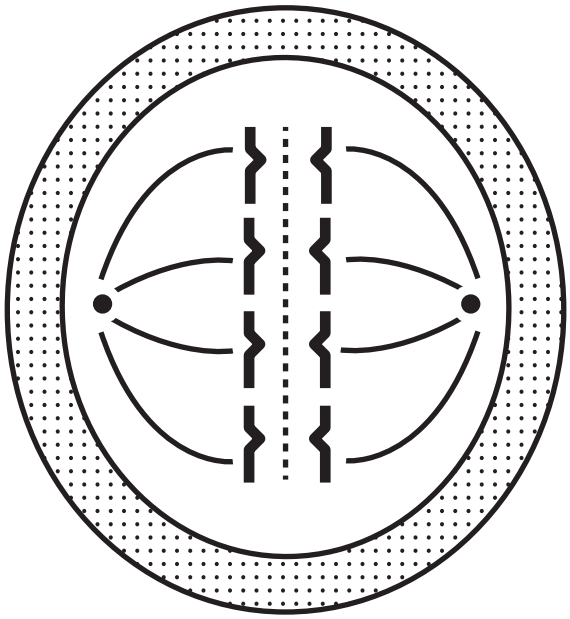


Les chromosomes se placent à l'équateur de la cellule



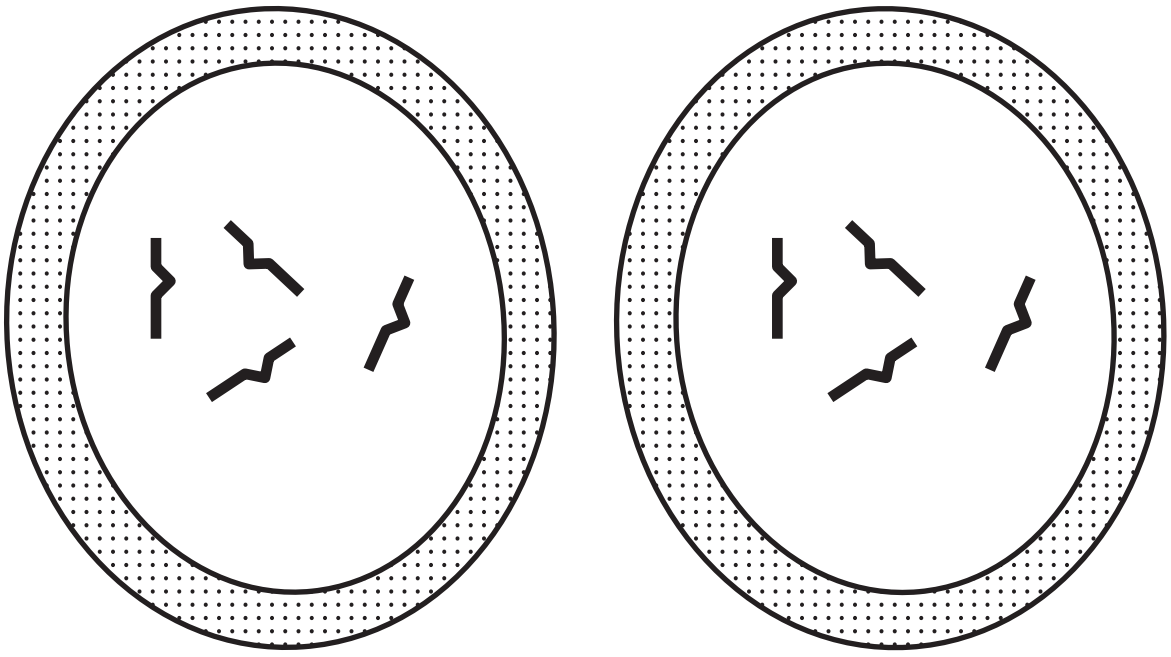
Les chromosomes se séparent en deux parties identiques

Les chromosomes se séparent en deux parties identiques



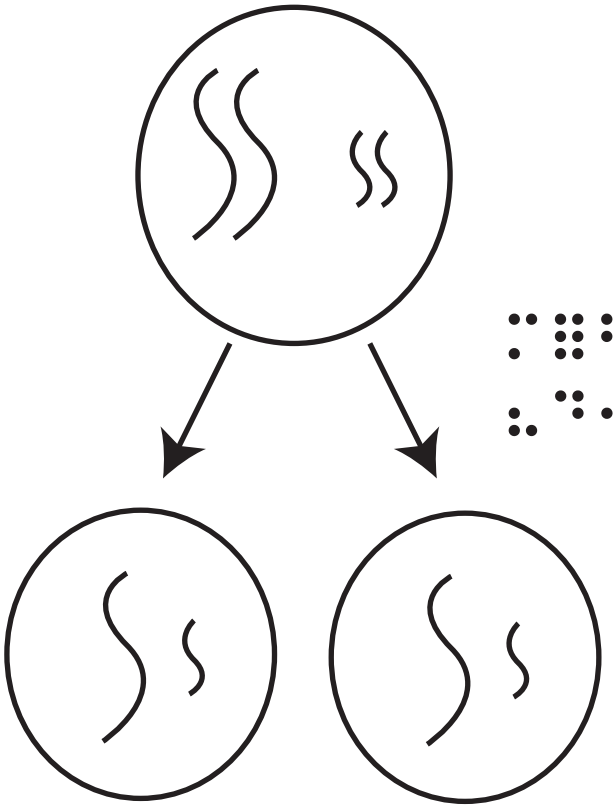
La cellule se sépare en deux cellules identiques

La cellule se sépare en deux cellules identiques



DER 14: Bilan:
la méïose, la fécondation et
la mitose

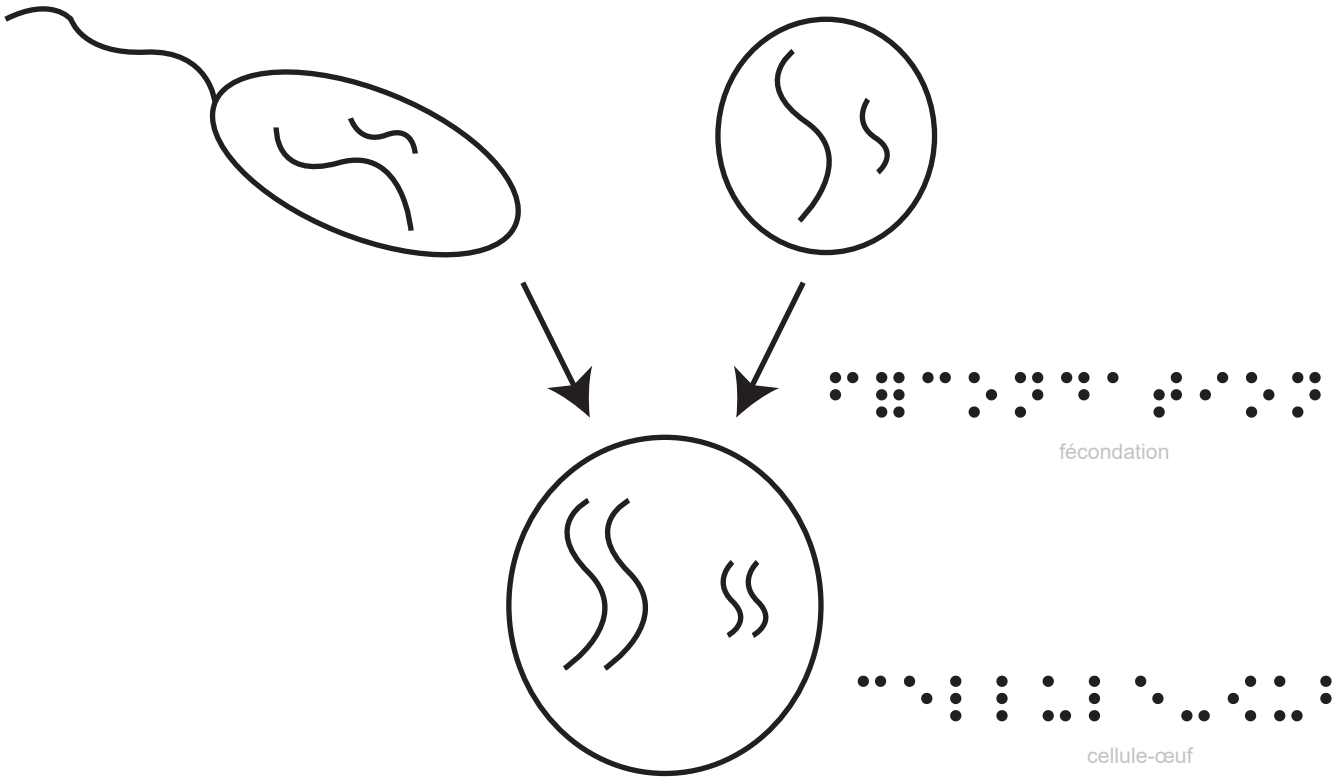
cellule-mère



méïose
(division par 2)

spermatozoïde

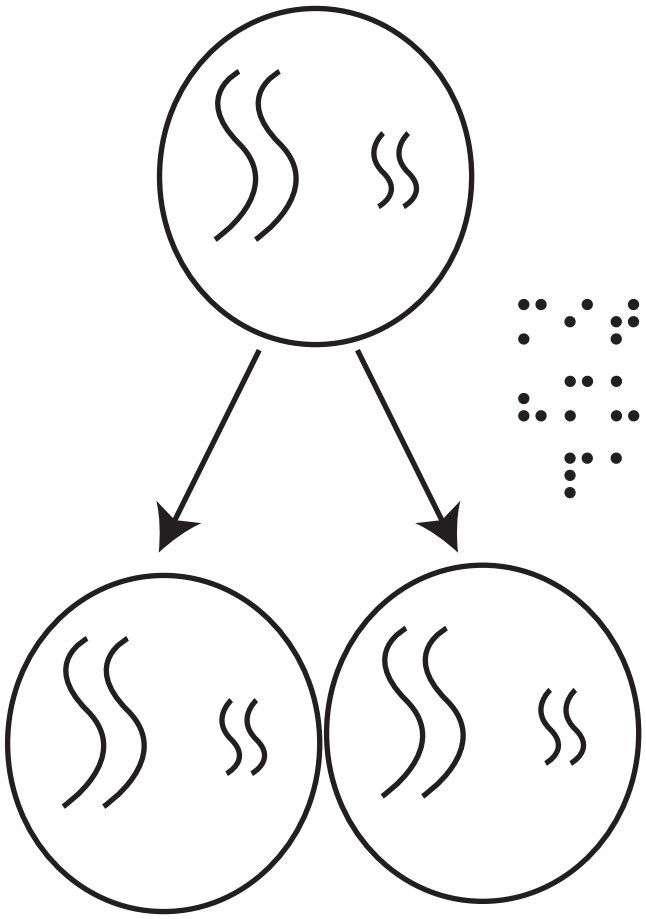
ovule



fécondation

cellule-œuf

cellule-œuf



mitose
(multiplication par 2)

Embryon

Division, addition et multiplication cellulaire

DER 15 schéma de l'appareil respiratoire de l'être humain

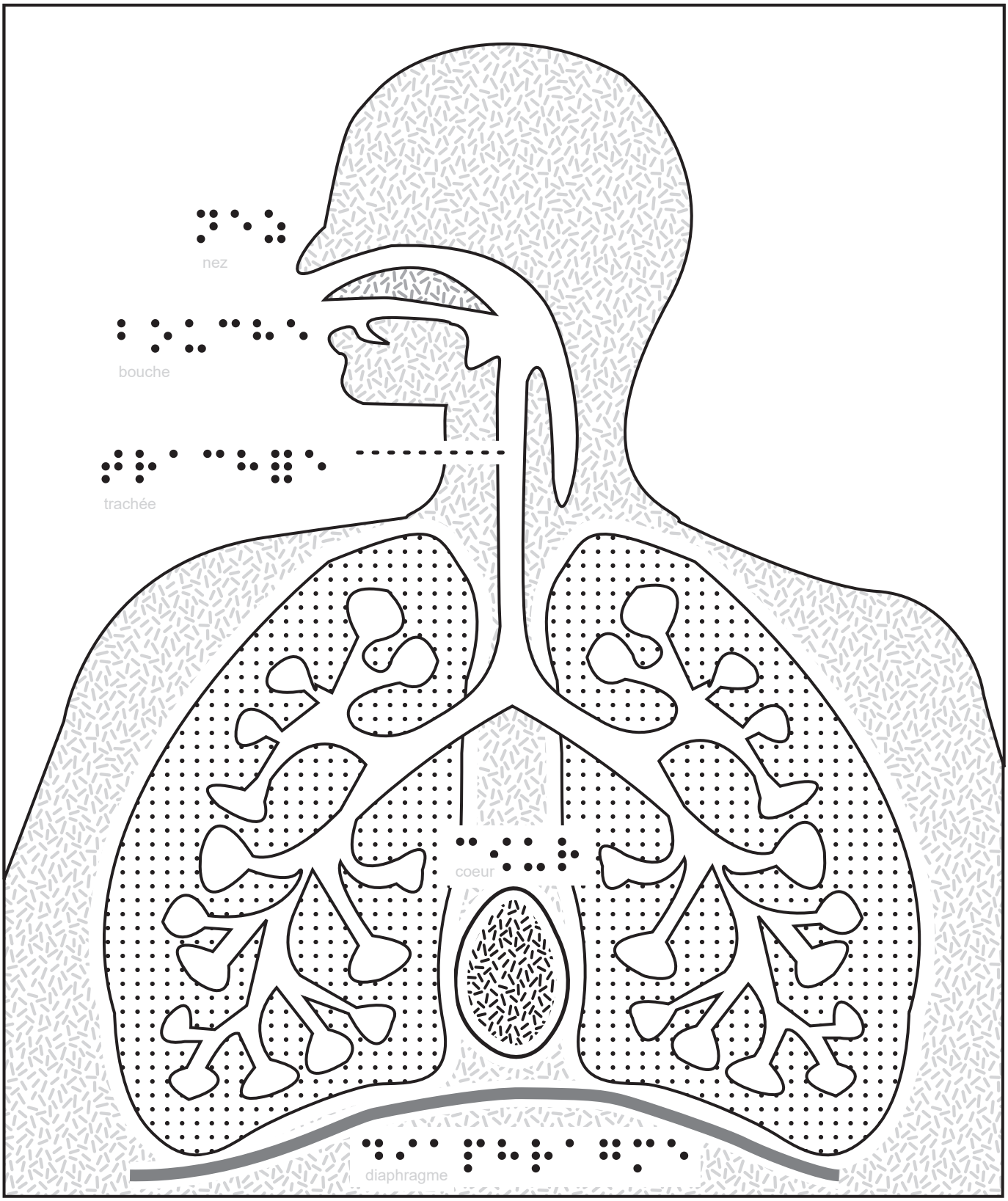
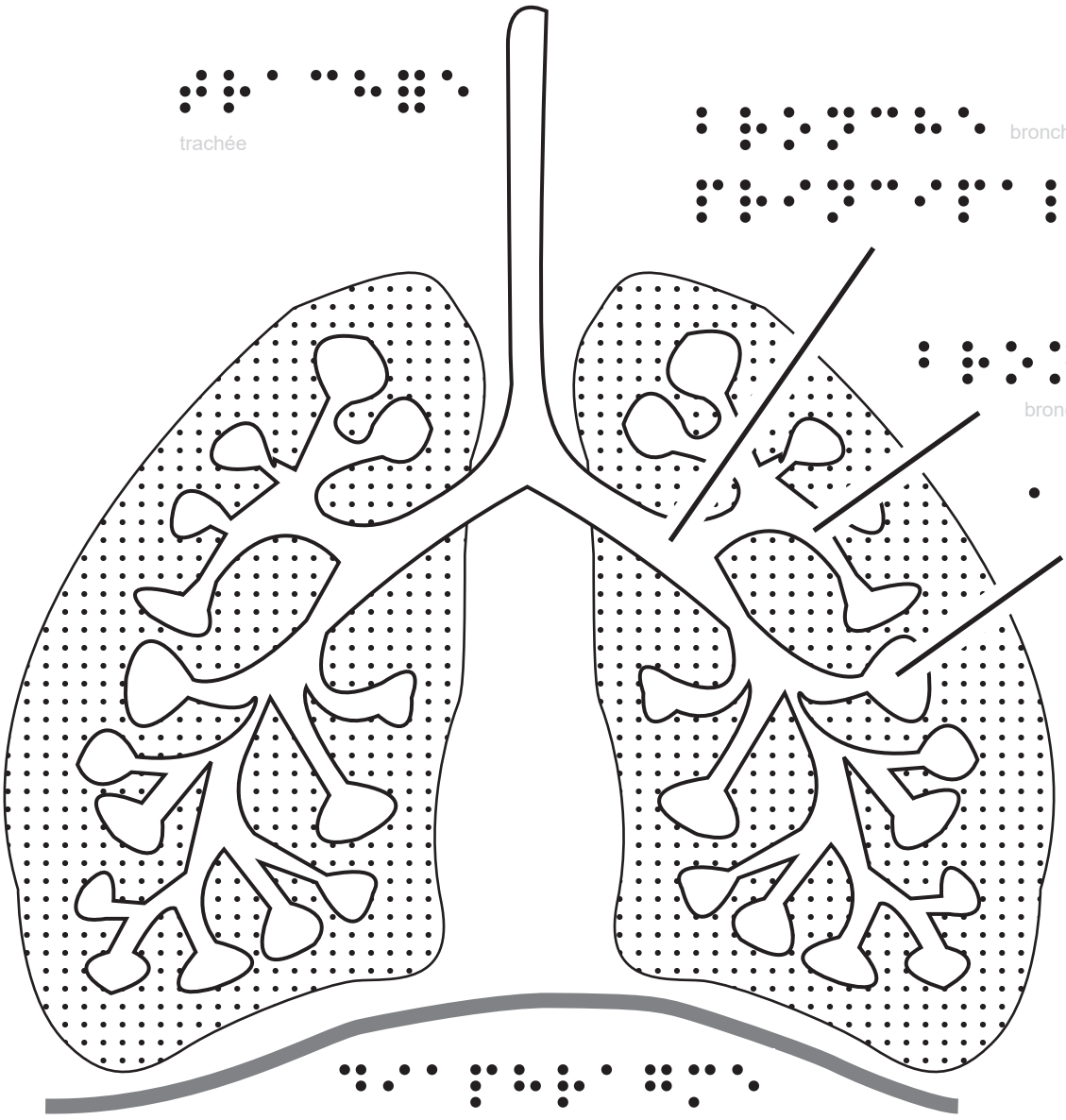
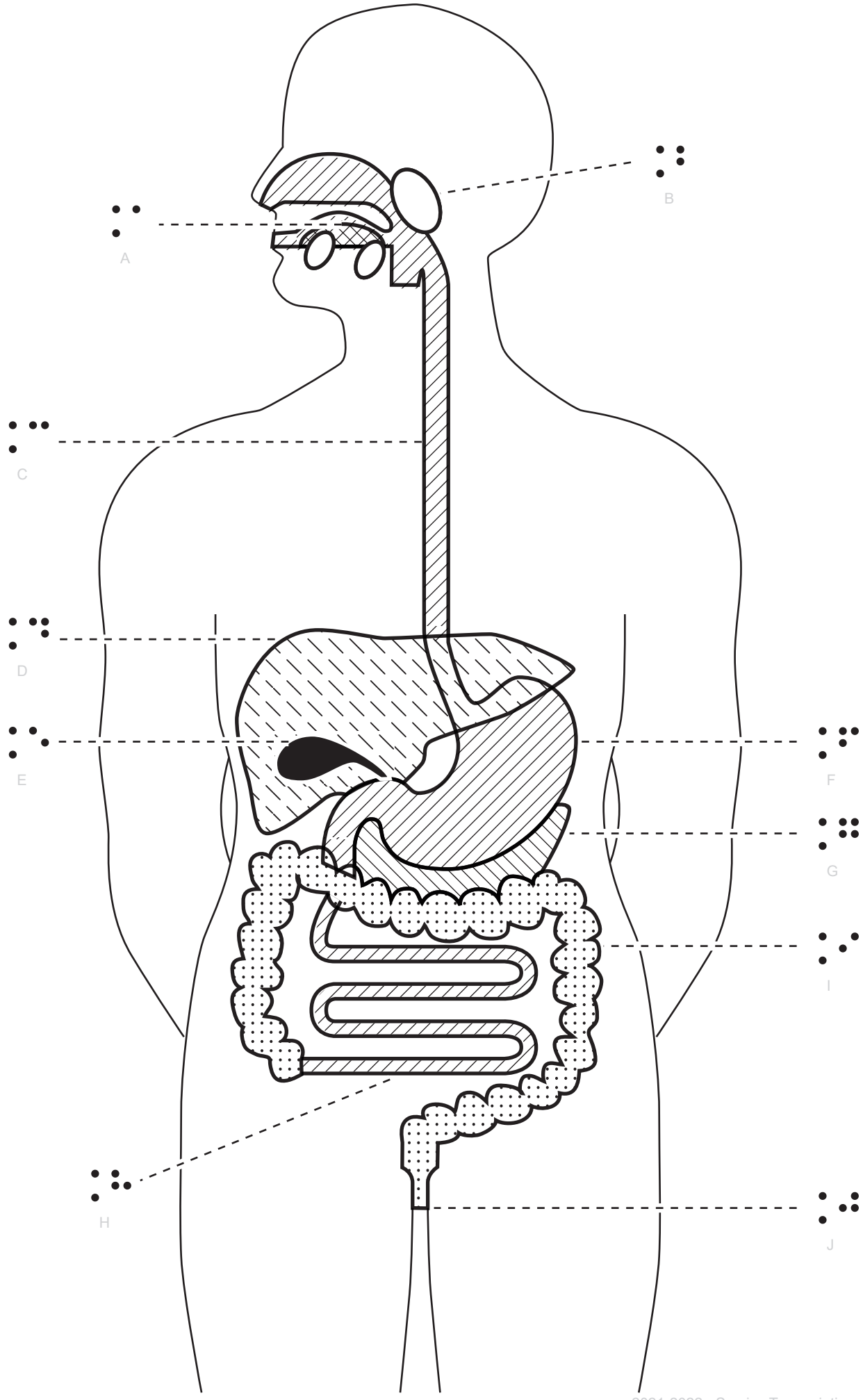


Schéma des poumons



DER 16
Appareil digestif de l'humain



2021-2022 - Service Transcription - www.ctrdv.fr

Légende

Les organes

A : langue

B : glande salivaire

C : œsophage

D : foie

E : vésicule biliaire

F : estomac

G : pancréas

H : intestin grêle

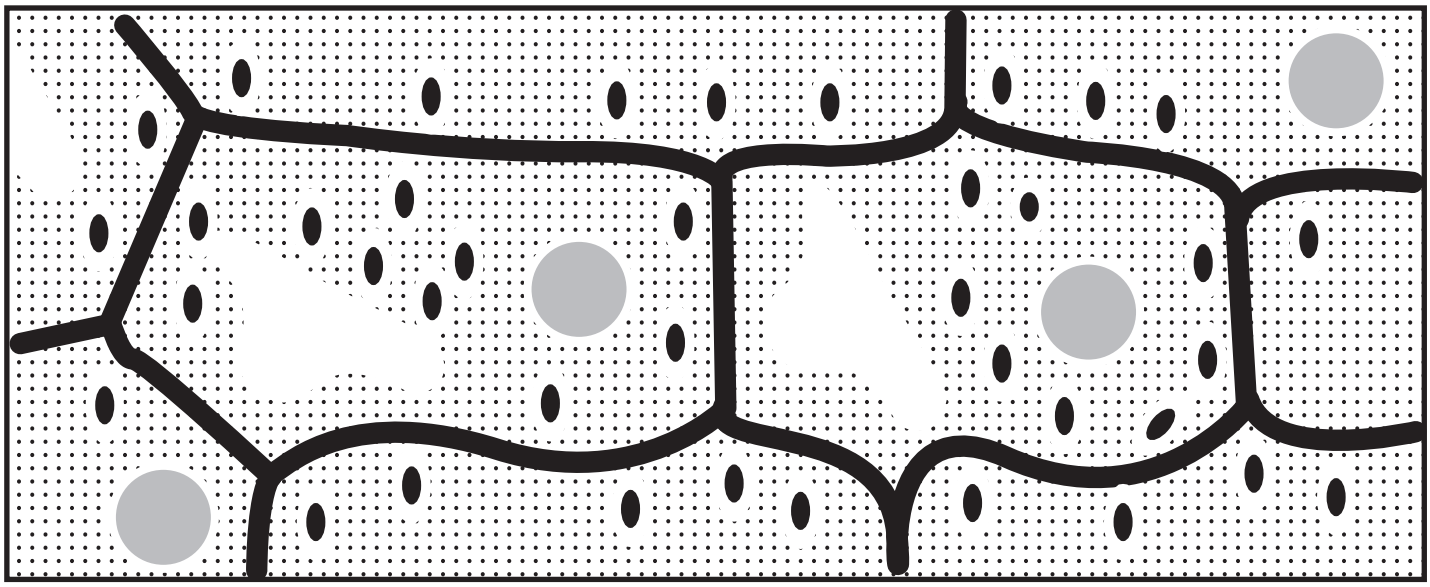
I : gros intestin

J : anus

DER 17

Observation de cellules végétales

Observation des cellules d'une feuille d'élodée (feuille chlorophyllienne).



1. cytoplasme

2. vacuole

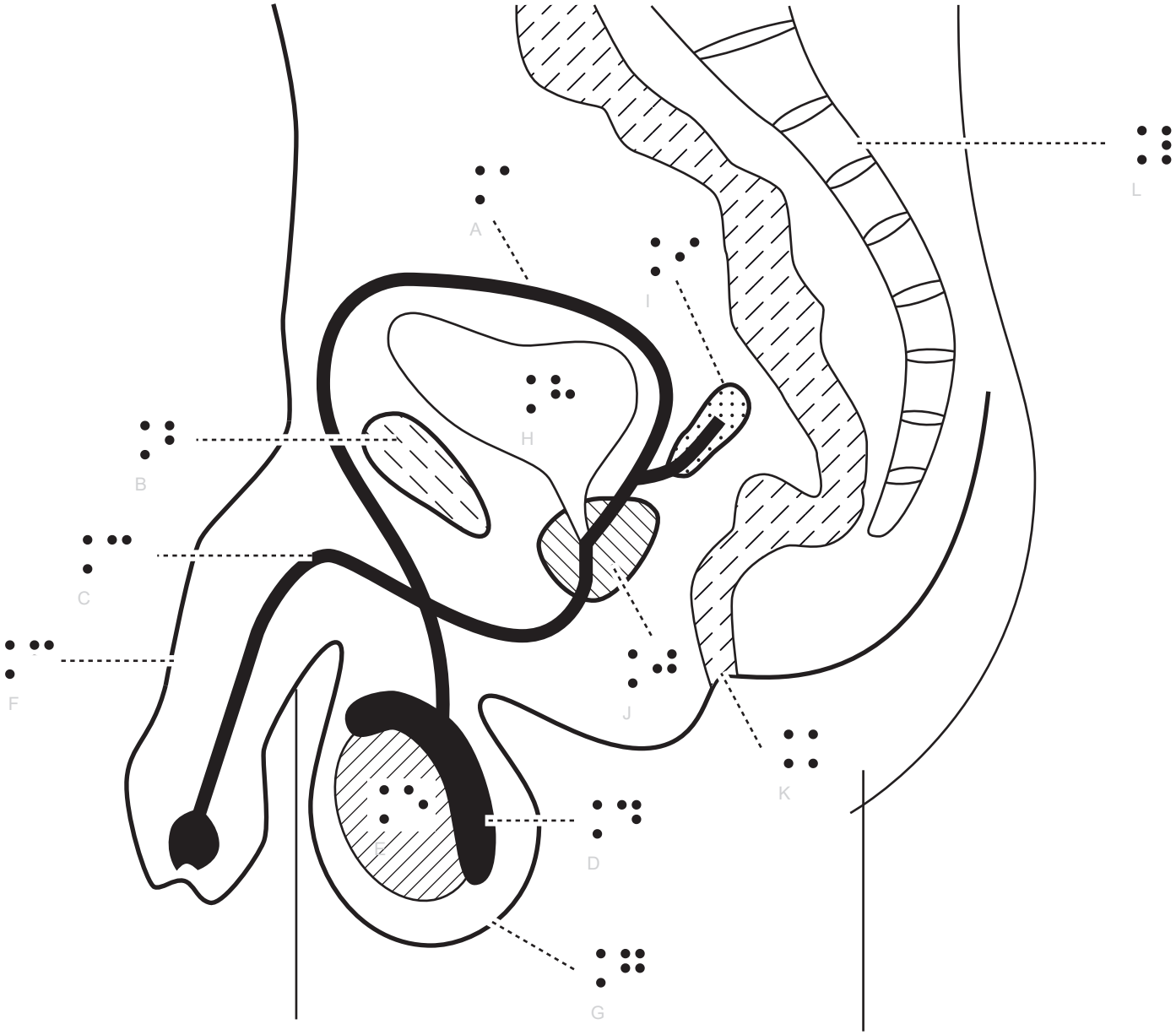
3. paroi + membrane

4. noyau

5. chloroplaste

DER 18

L'appareil génital de l'homme



Légende

A : canal déférent

B : os du bassin (pubis)

C : urètre

D : épididyme

E : testicule

F : pénis

G : bourse

H : vessie

I : vésicule séminale

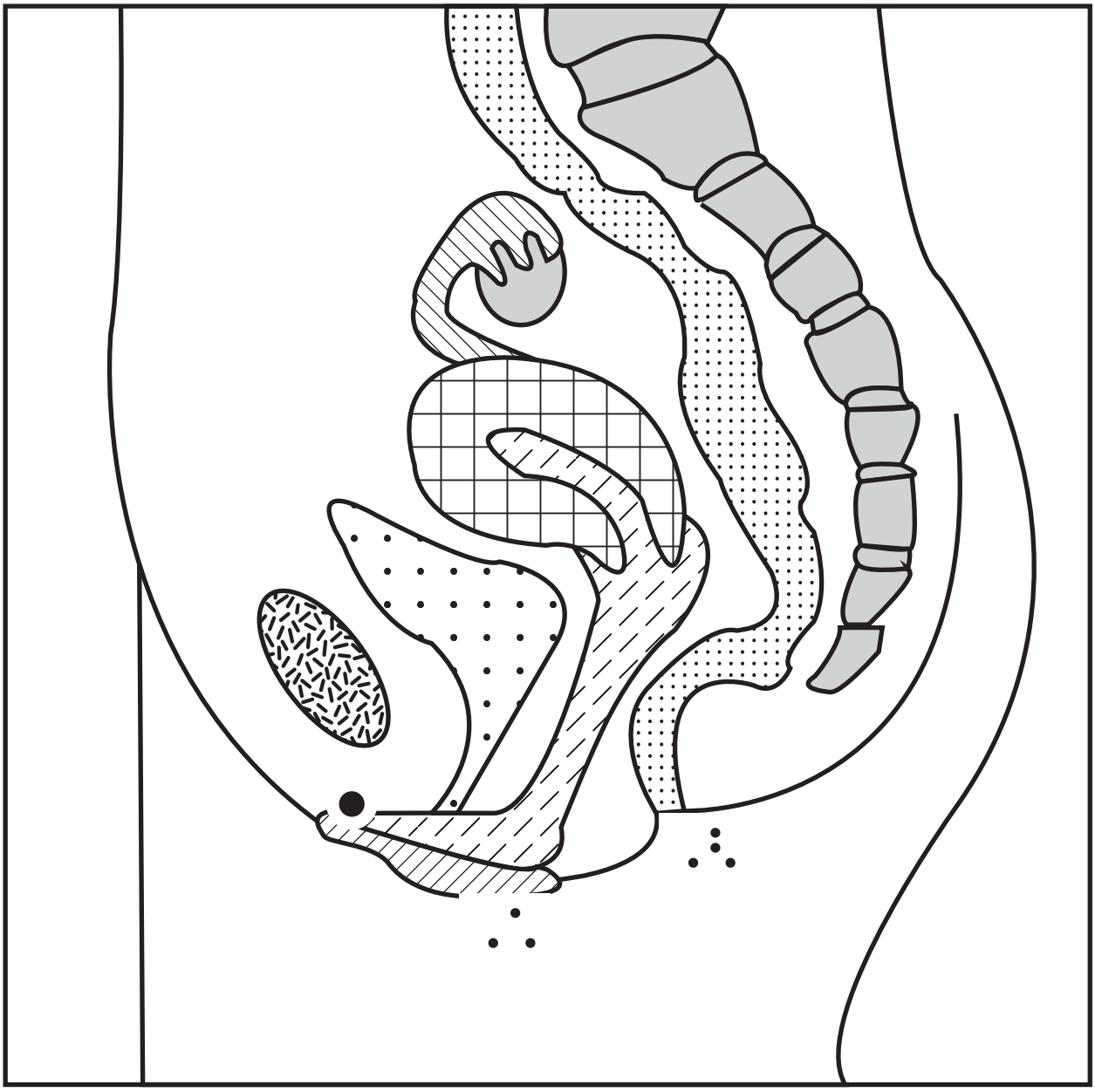
J : prostate

K : anus

L : colonne vertébrale

DER 19

L'appareil génital de la femme vue de profil

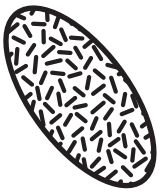


2021-2022 - Service Transcription - www.ctrdv.fr

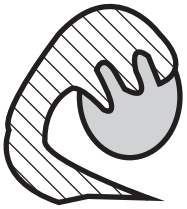
Légende

1: orifice du vagin
2: anus

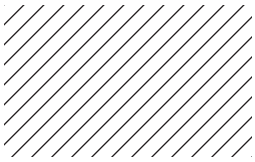
clitoris



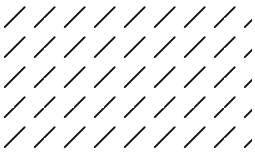
bassin (pubis)



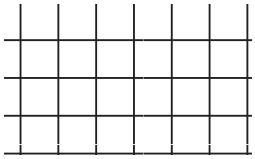
ovaire et le pavillon de l'ovaire



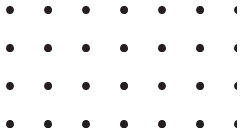
petites lèvres et
grandes lèvres



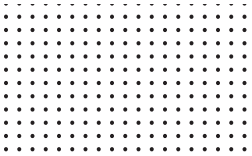
vagin



utérus



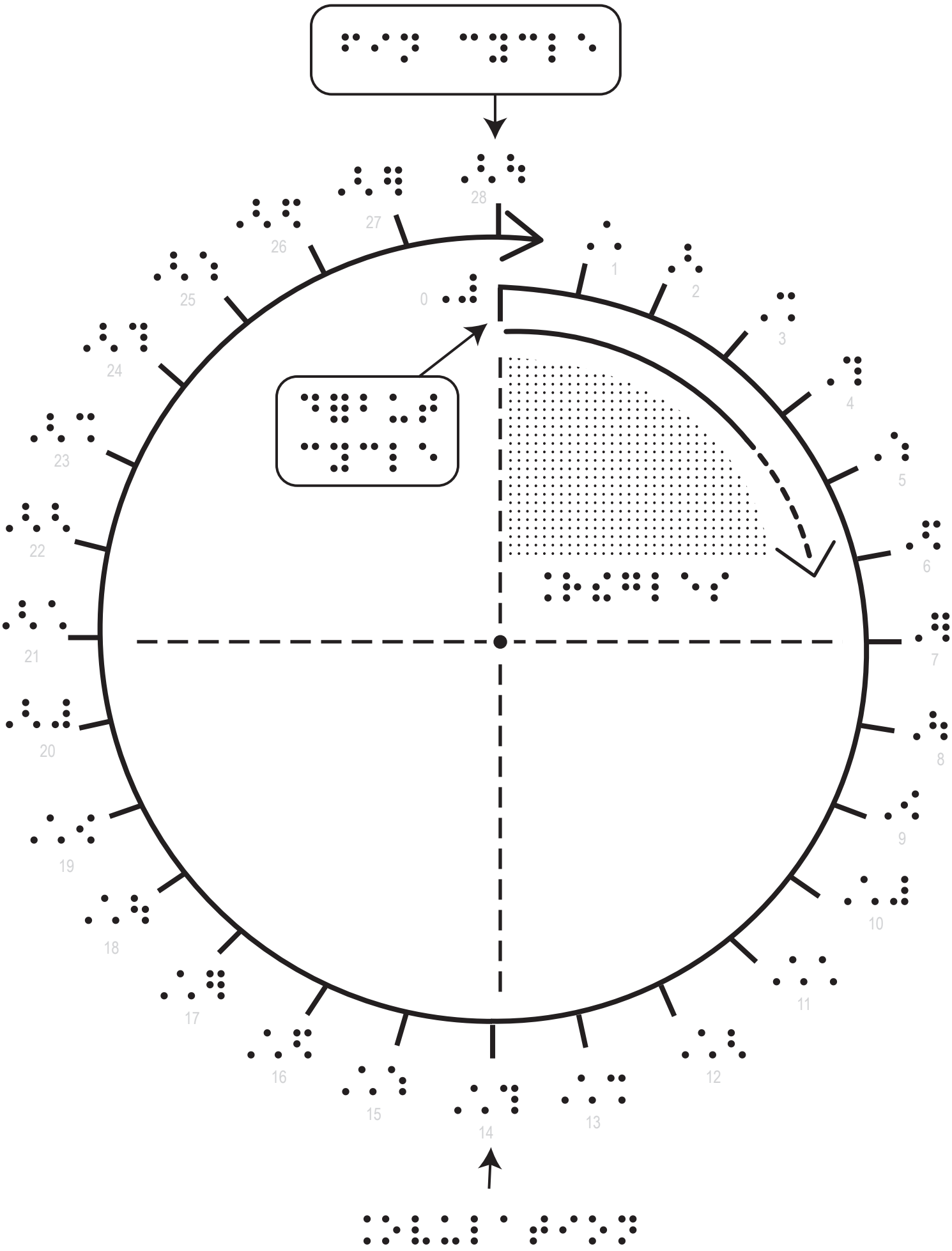
vessie



intestin

colonne vertébrale

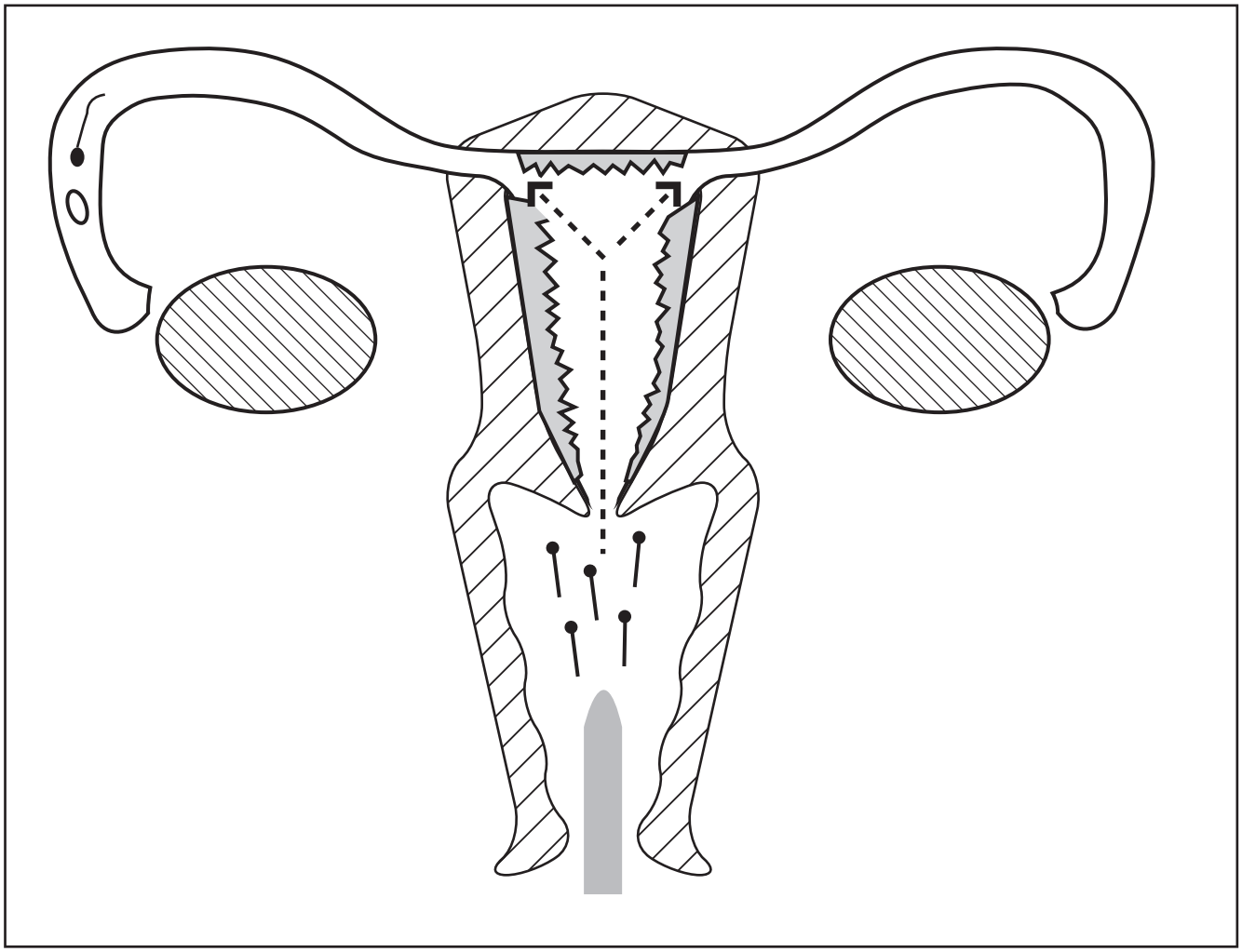
Les cycles de la femme



DER 21

Le rapport sexuel

La fécondation



pénis

spermatozoïde

ovule (attention il n’est pas toujours présent)

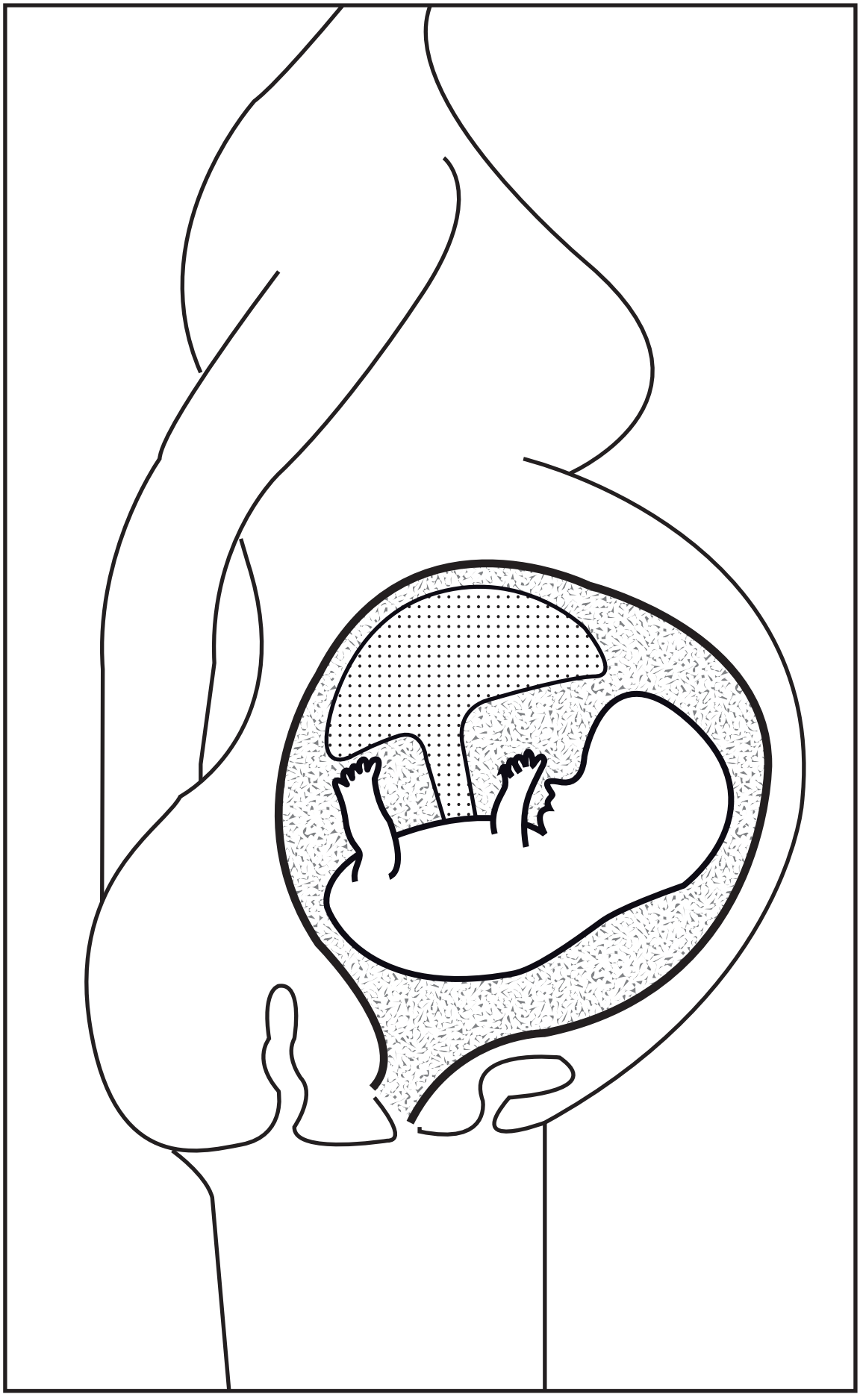
muqueuse utérine

trajet des spermatozoïdes

2021-2022 - Service Transcription - www.ctrdv.fr

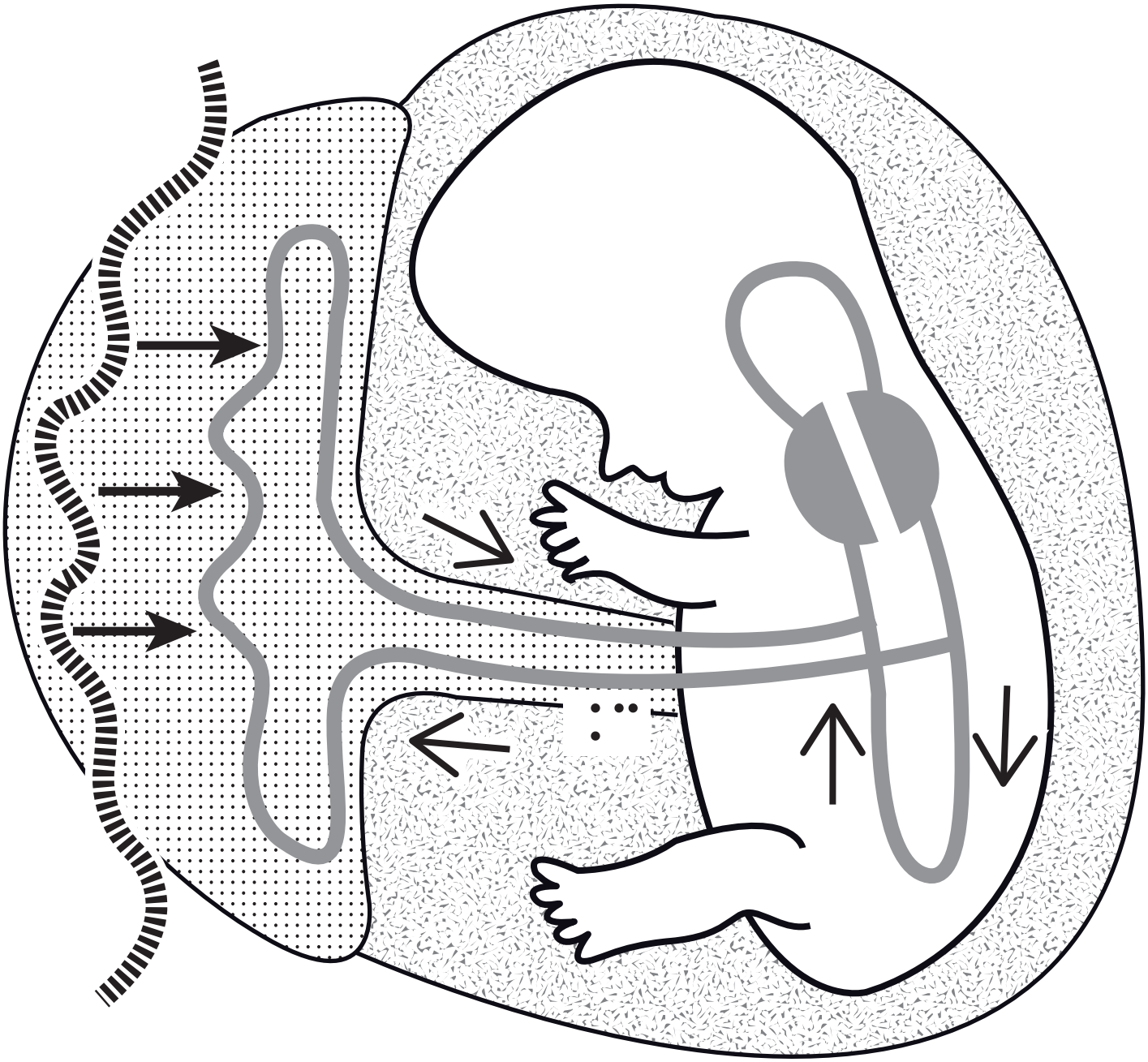
DER 22

Les échanges entre la mère et le fœtus

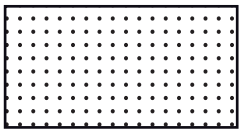


2021-2022 - Service Transcription - www.ctrdv.fr

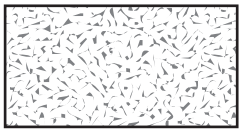
Zoom au niveau du fœtus



2021-2022 - Service Transcription - www.ctrdv.fr



Placenta



Liquide amniotique

Utérus

sang de la mère

sang du fœtus

cœur du fœtus

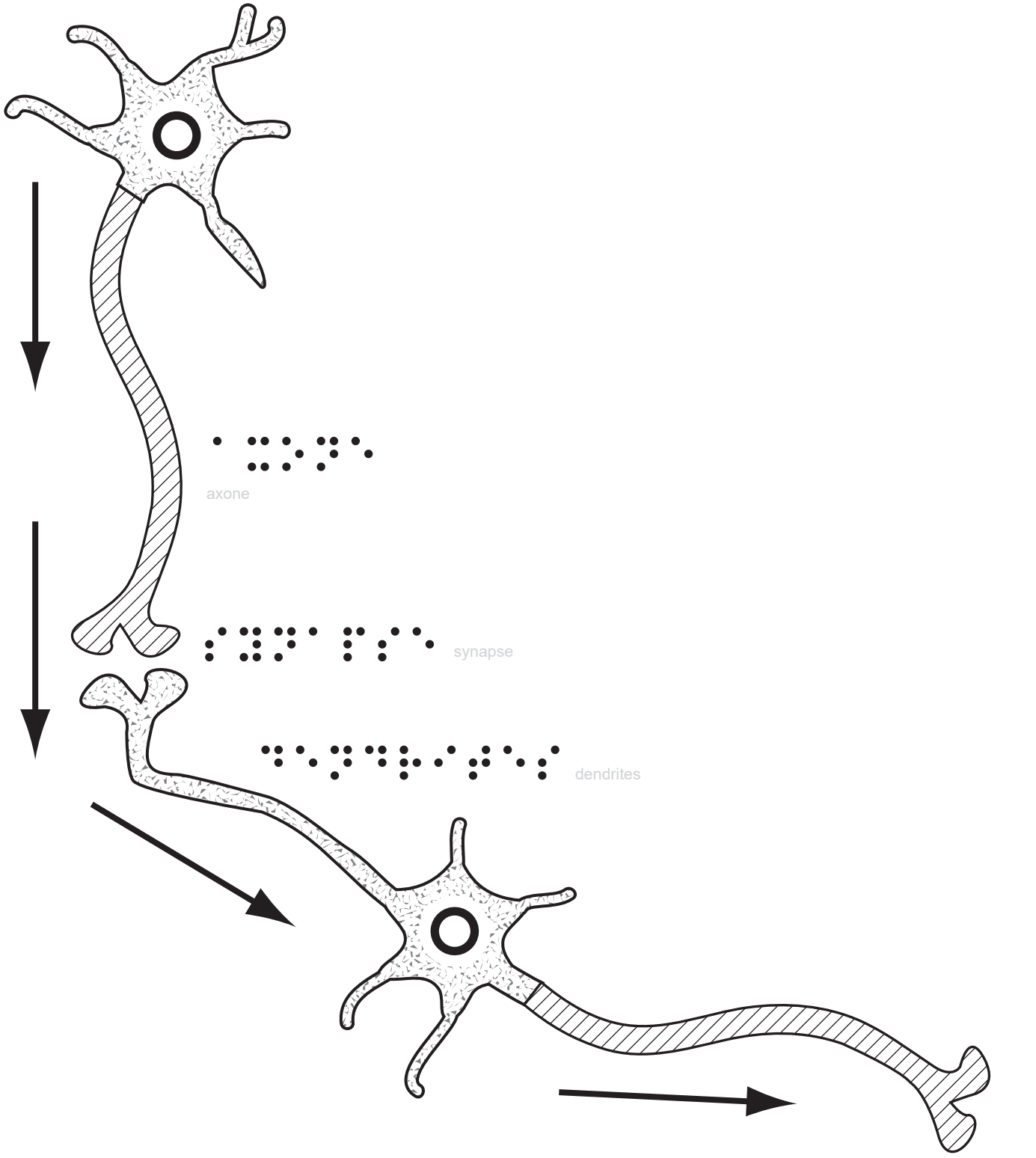
C Cordon ombilical

nutriments

sens de circulation du sang

DER 23: Connexion entre deux neurones

neurone 1



axone

synapse

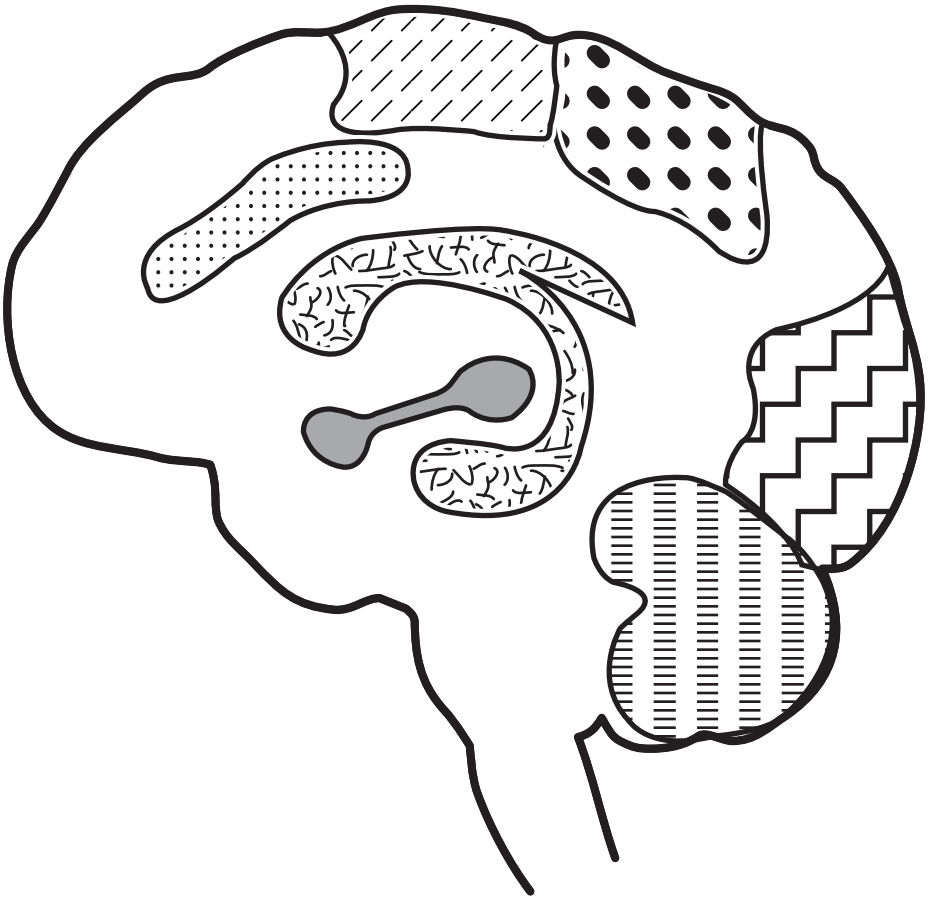
dendrites

neurone 2

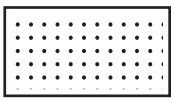
noyau

trajet message nerveux

DER 24: Les différentes aires du cerveau

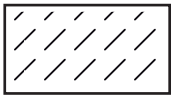


Coordination



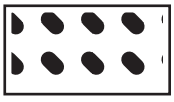
Jugement

Mémoire

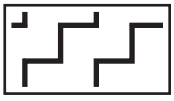


Mouvement

Plaisir



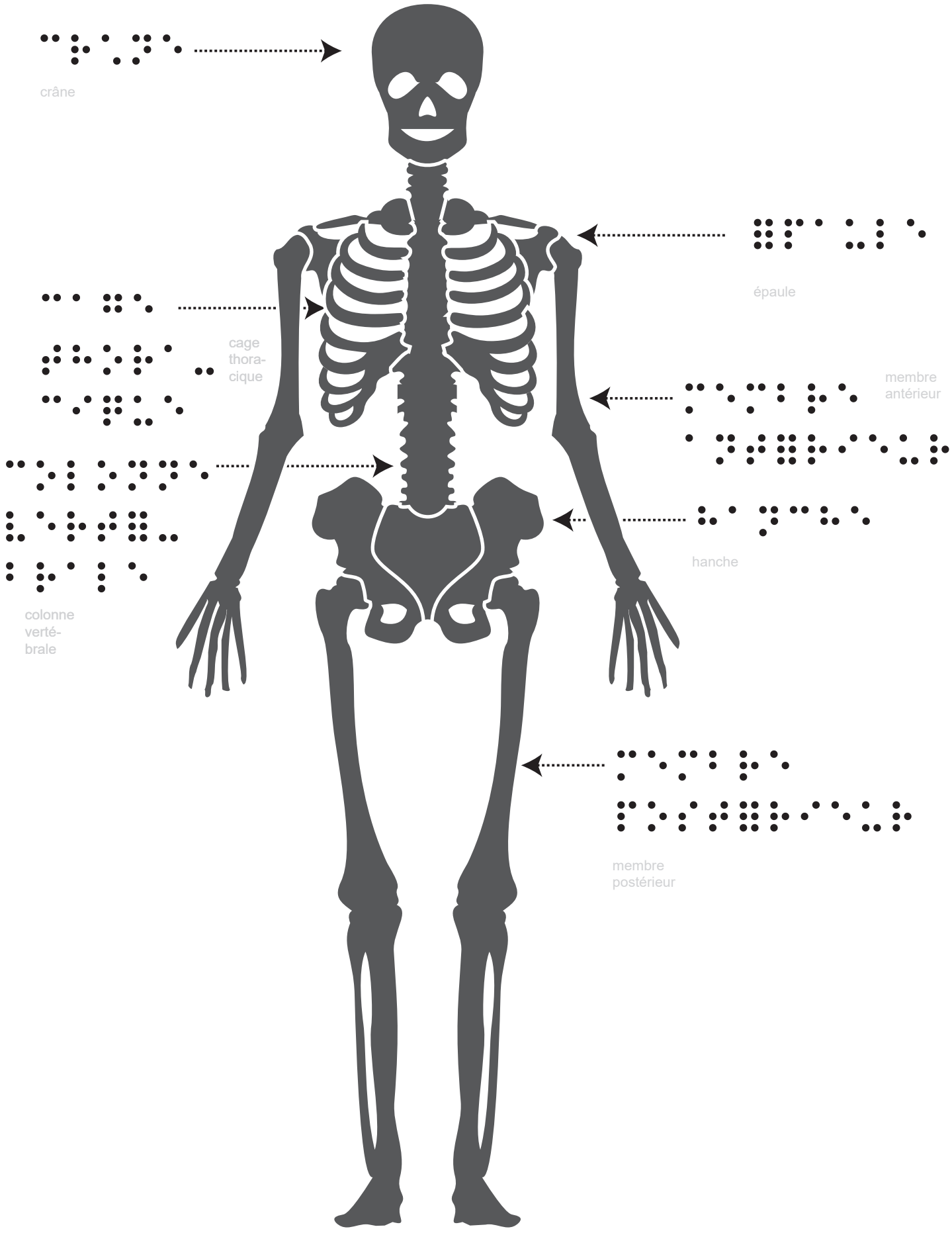
Sensation



Vision

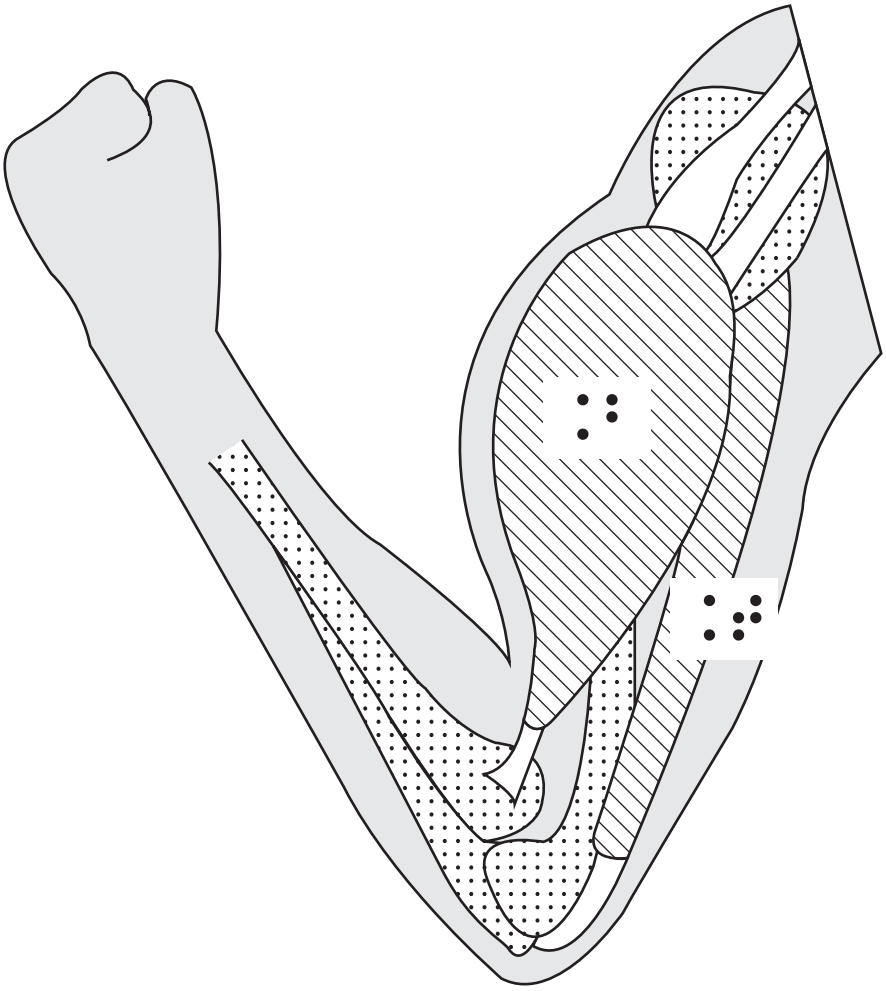
2021-2022 - Service Transcription - www.ctrdv.fr

DER 25: Le squelette



DER 26: Flexion et extension du bras

Flexion de l’avant-bras sur le bras



Muscle

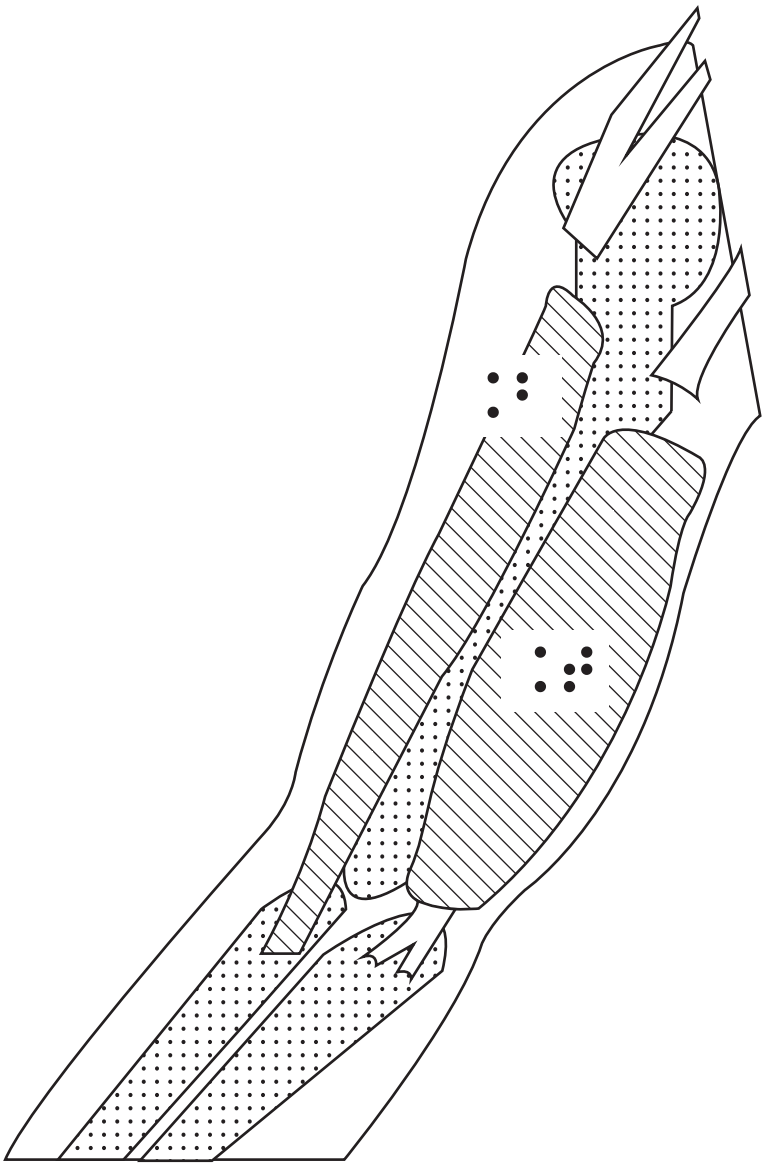
Os

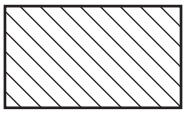
Ligaments

B Biceps contracté (agoniste)
T Triceps relâché (antagoniste)

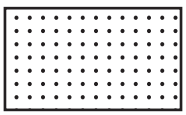
2021-2022 - Service Transcription - www.ctrdv.fr

Extension de l’avant-bras





Muscle



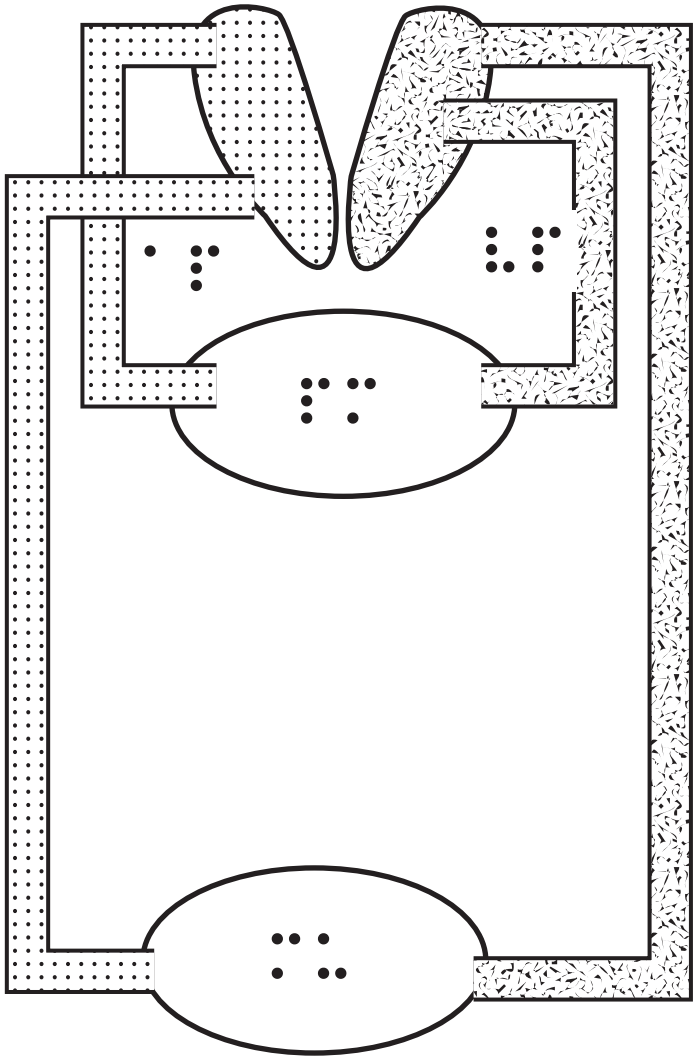
Os

Ligaments

B Biceps relâché (antagoniste)
T Triceps contracté (agoniste)

2021-2022 - Service Transcription - www.ctrdv.fr

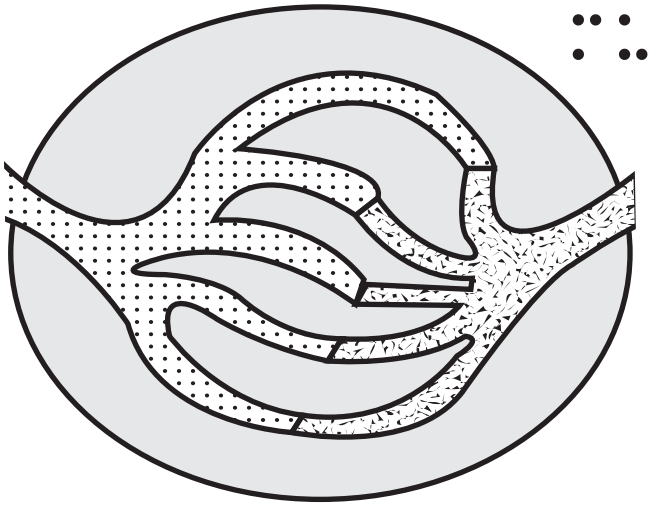
DER 27: Schéma de la circulation du sang



veine cave

artère aorte

Schéma de capillaires sanguins



muscle

Légende du schéma de la circulation du sang

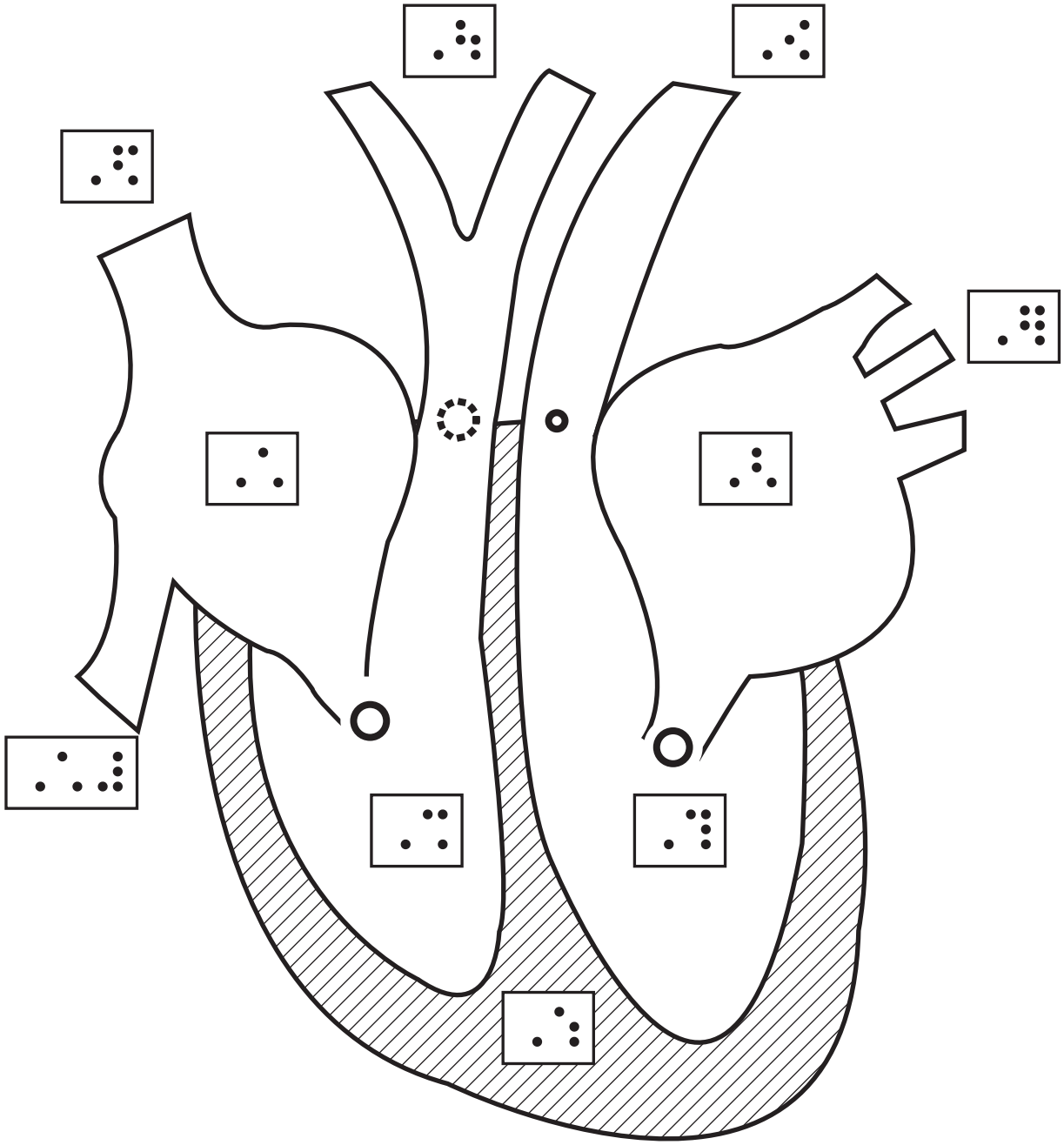
sang riche en dioxyde de carbone

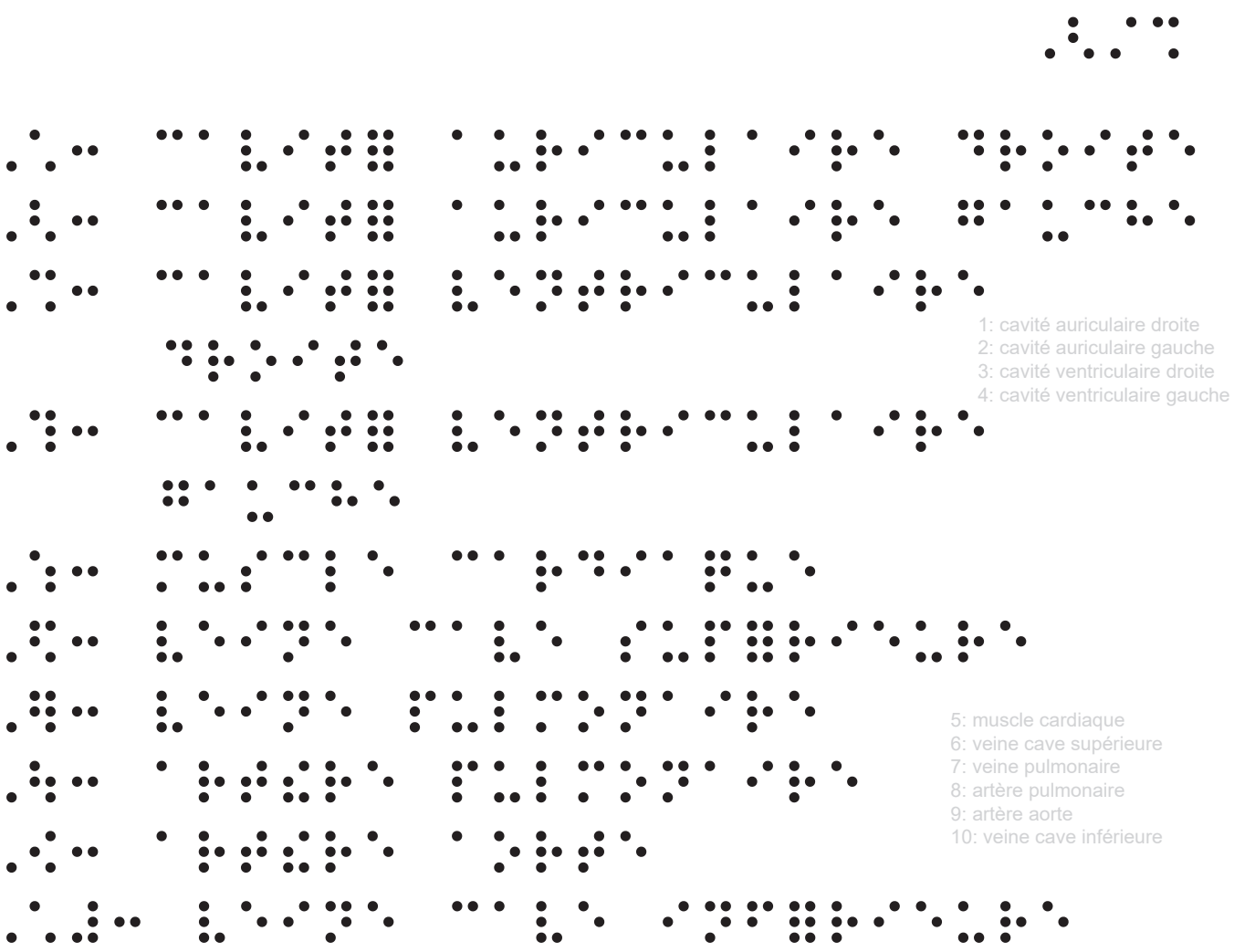
sang riche en dioxygène

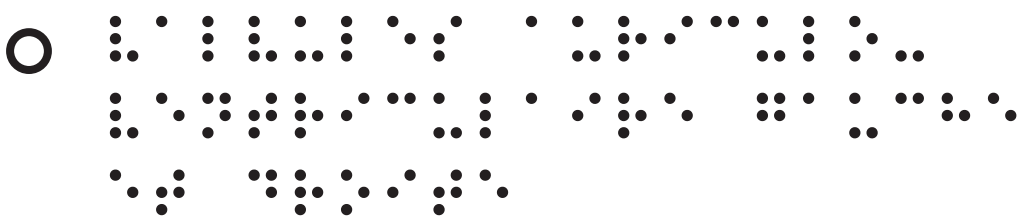
cd: coeur droit avec oreillette et ventricule droit
cg: coeur gauche avec oreillette e t ventricule gauche
ap: artère pulmonaire
vp: veine pulmonaire
pm: poumons
mu: muscle

⠠⠙⠑⠗ ⠼⠃⠓ ⠠⠉⠕⠥⠏⠑ ⠙⠥ ⠉⠕⠑⠥⠗ ⠑⠞ ⠉⠊⠗⠉⠥⠇⠁⠞⠊⠕⠝ ⠙⠥ ⠎⠁⠝⠛

DER 28: Coupe du cœur et circulation du sang

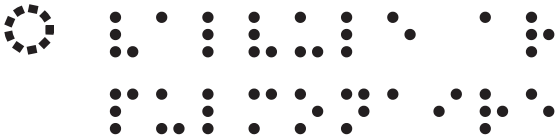






valvules auriculo-ventriculaire gauche et droite

valvules artérielle aortique

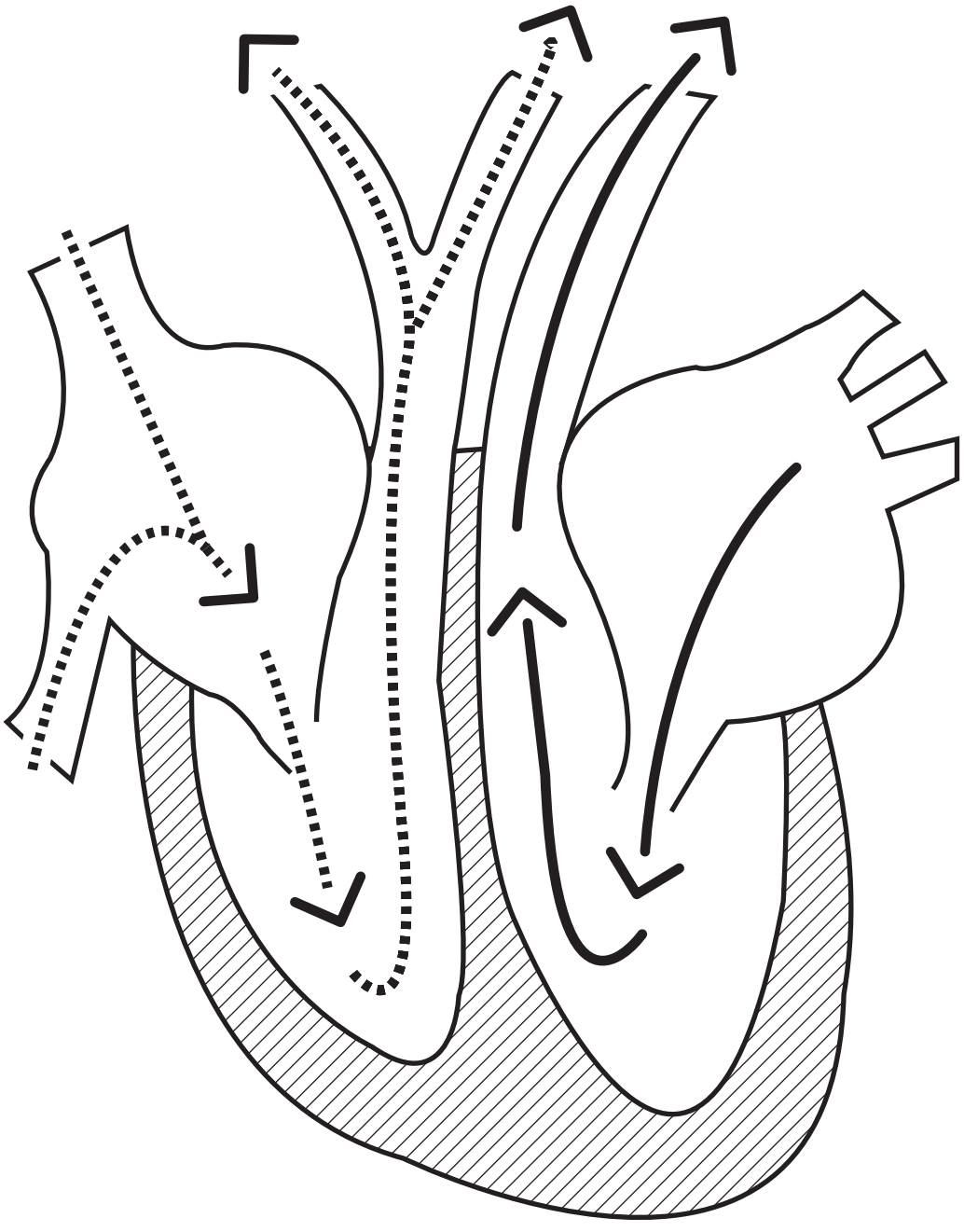


valvule artérielle pulmonaire

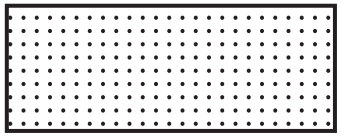
Circulation du sang

circulation du sang rentrant par la veine cave

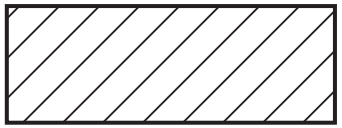
circulation du sang rentrant par les veines pulmonaires



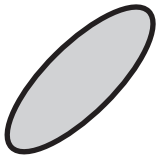
DER 29: La Phagocytose



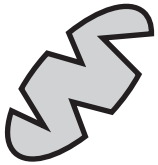
phagocyte



noyau

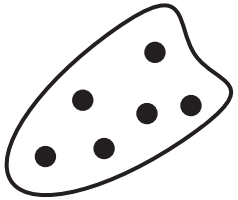


bactérie



bactérie qui est détruite par les enzymes

enzymes digestives



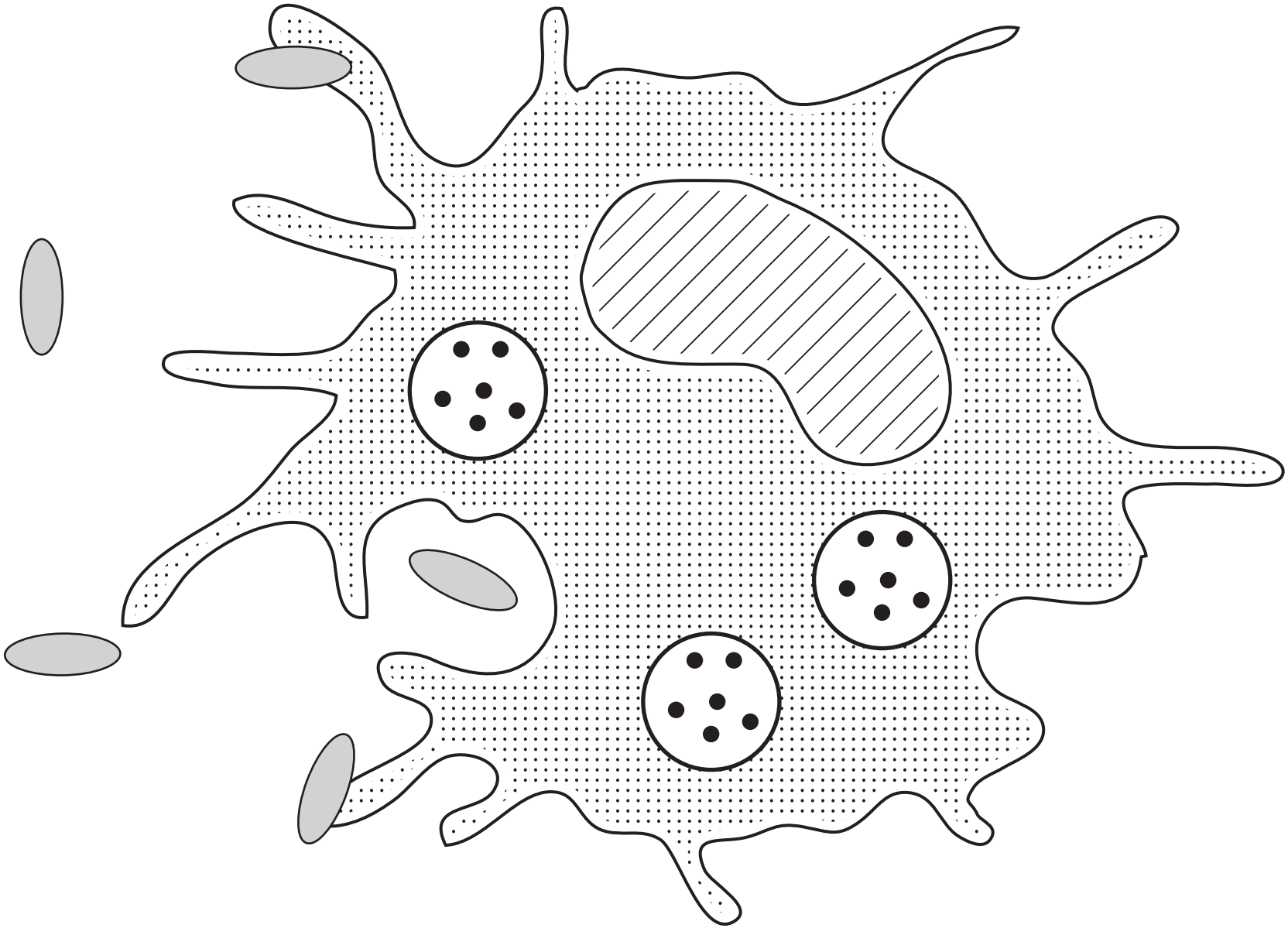
vesicules contenant des enzymes digestives

Déchets de bactéries digérées

2021-2022 - Service Transcription - www.ctrdv.fr

⠠⠏⠓⠁⠛⠕⠉⠽⠞⠑ ⠁⠞⠞⠗⠁⠏⠁⠝⠞ ⠙⠑⠎ ⠃⠁⠉⠞⠻⠊⠑⠎ ⠁⠏⠗⠈⠎ ⠇⠑⠎ ⠁⠧⠕⠊⠗ ⠗⠑⠉⠕⠝⠝⠥⠑⠎ ⠉⠕⠍⠍⠑ ⠑⠞⠗⠁⠝⠛⠻⠑⠎

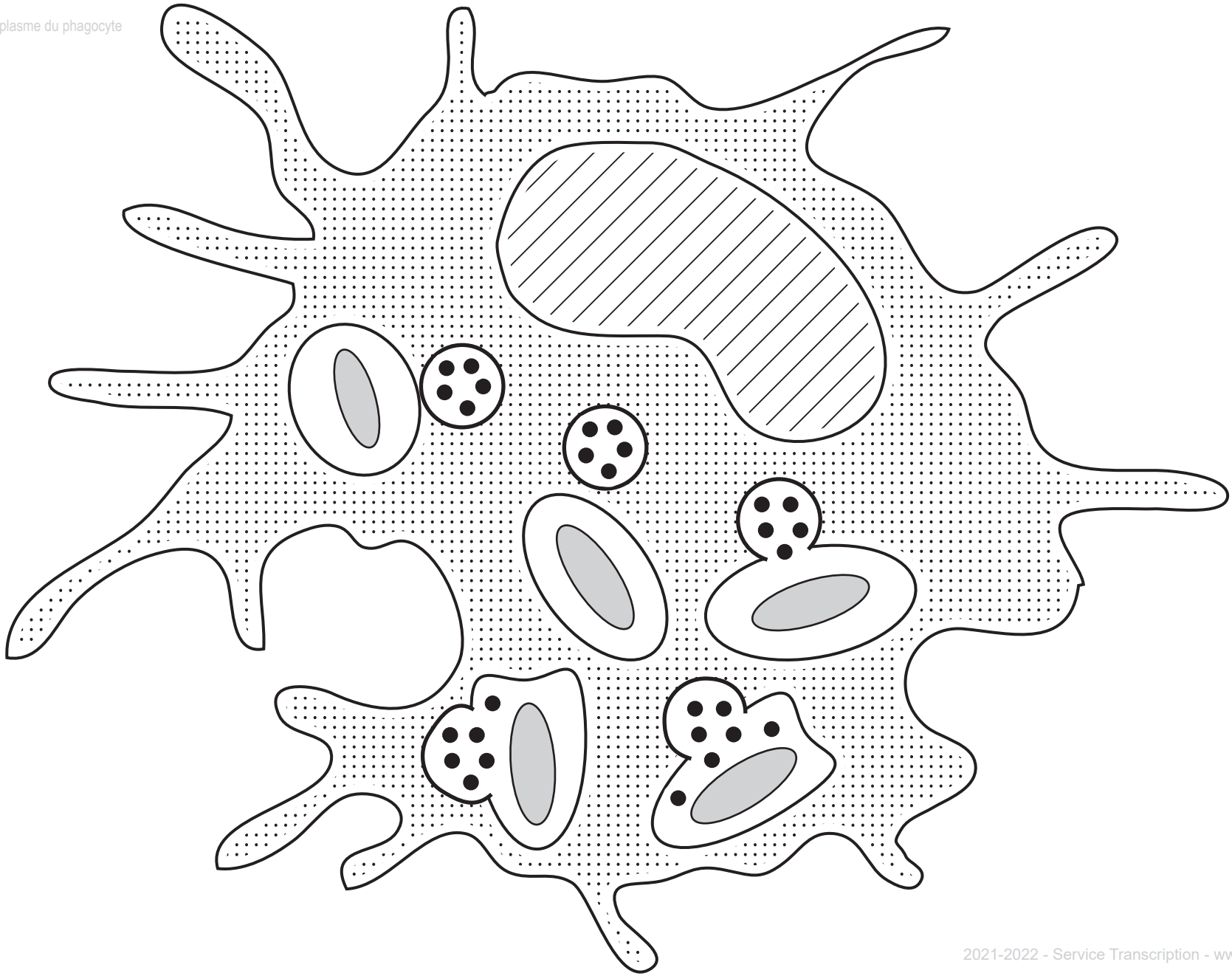
Phagocyte attrapant des bactéries après les avoir reconnues comme étrangères



2021-2022 - Service Transcription - www.ctrdv.fr

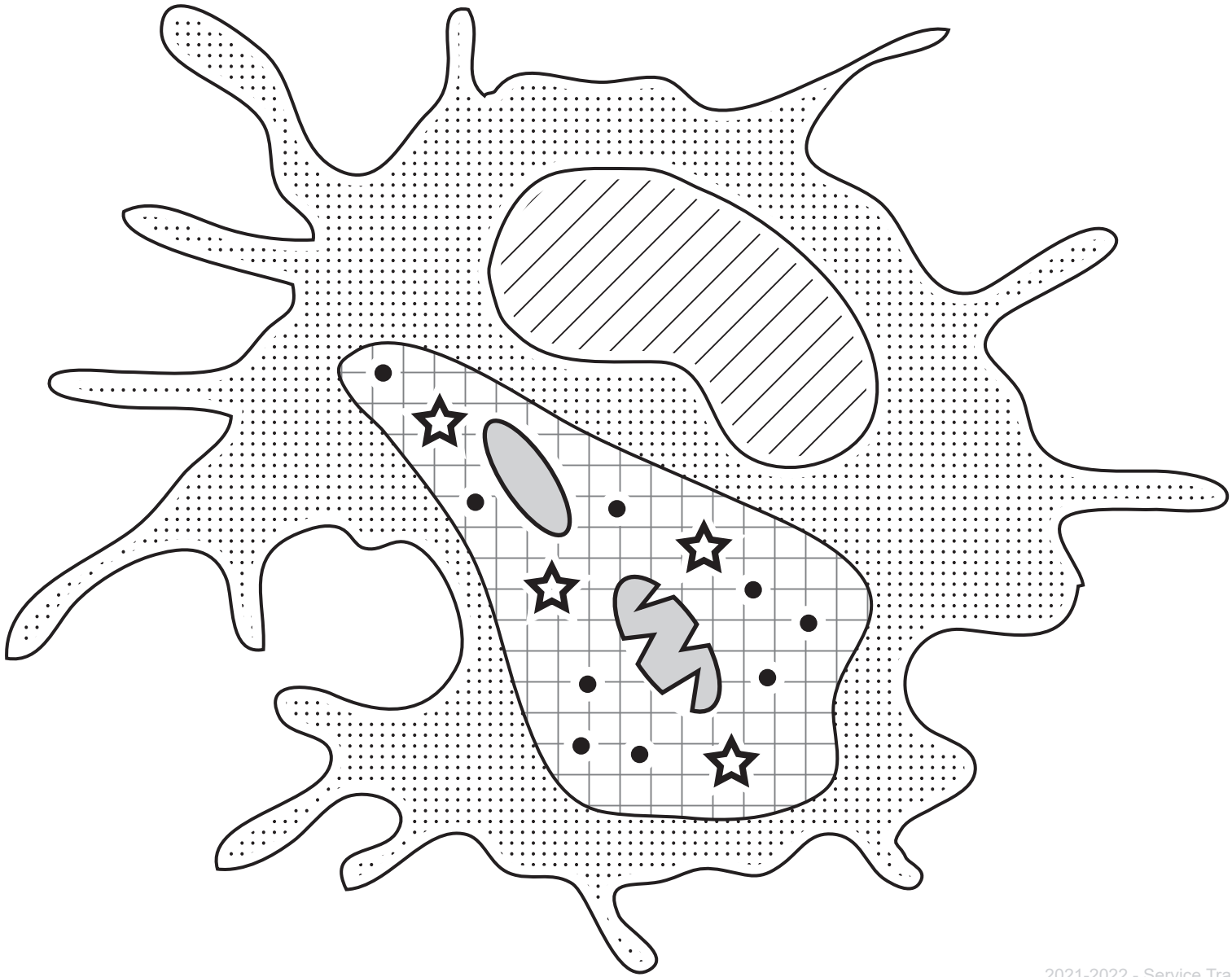
⠠⠁⠃⠎⠕⠗⠏⠞⠊⠕⠝ ⠙⠑⠎ ⠃⠁⠉⠞⠻⠊⠑⠎ ⠁ ⠇⠠⠊⠝⠞⠻⠊⠑⠥⠗ ⠙⠥ ⠉⠽⠞⠕⠏⠇⠁⠎⠍⠑ ⠙⠥ ⠏⠓⠁⠛⠕⠉⠽⠞⠑

Absorption des bactéries à l'intérieur du cytoplasme du phagocyte



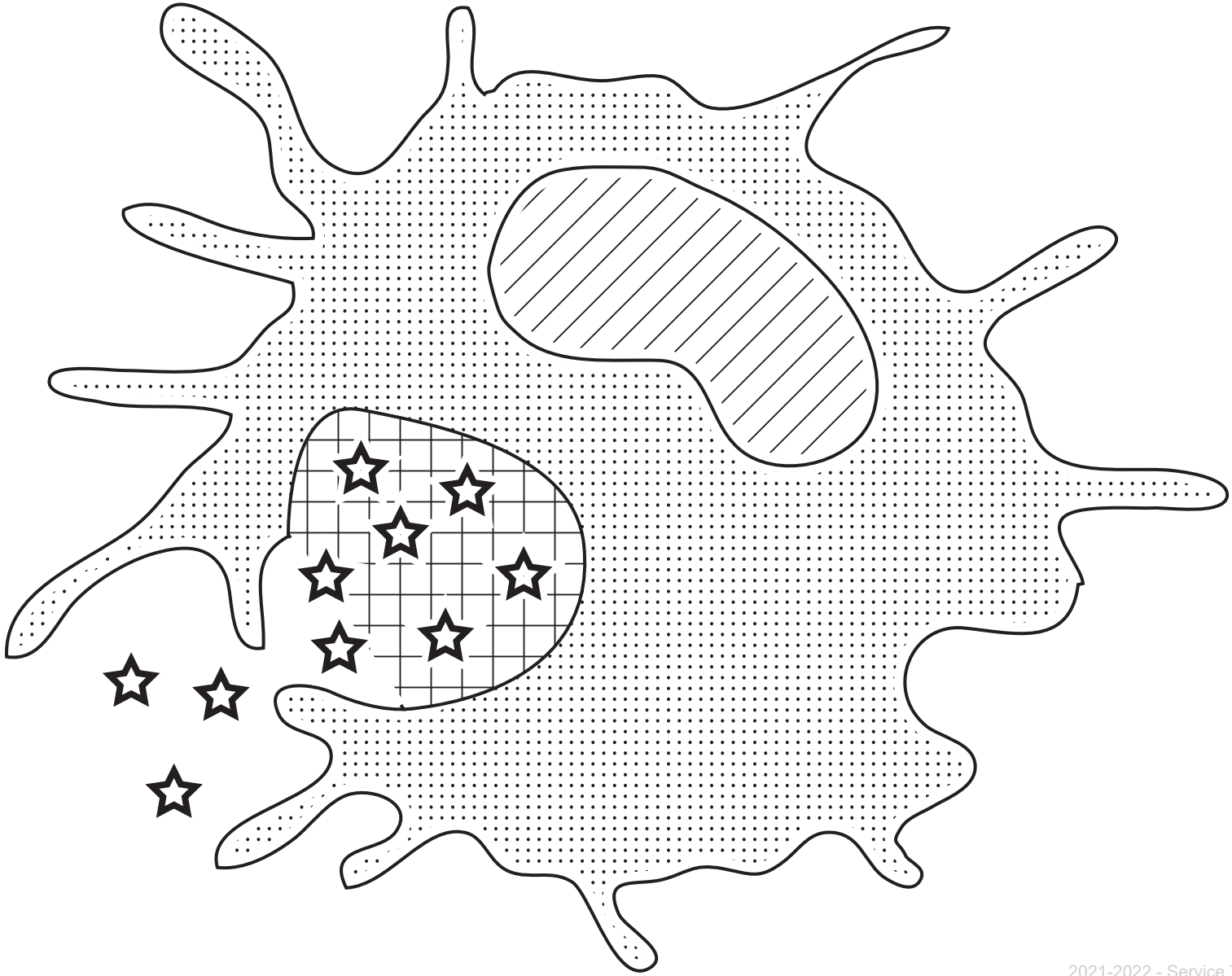
2021-2022 - Service Transcription - www.ctrdv.fr

Destruction des bactéries par les enzymes digestives



2021-2022 - Service Transcription - www.ctrdv.fr

Libération des déchets de bactérie à l'extérieur du cytoplasme

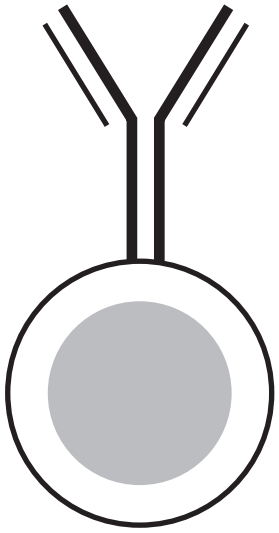


2021-2022 - Service Transcription - www.ctrdv.fr

DER 30: Bilan de la réaction immunitaire adaptative

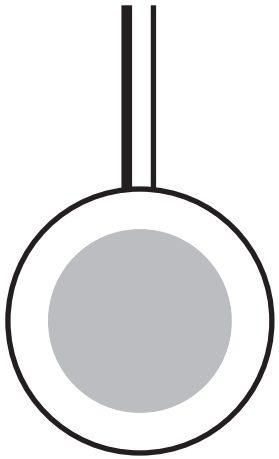
Chez les vertébrés, les lymphocytes sont les cellules responsables de l'immunité adaptative

Lymphocyte B :



Récepteur B :OO
anticorps
membranaire

Lymphocyte T :



Récepteur T

Légende :

antigène

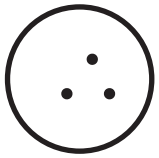
cellule LB

Ca: cellule présentatrice de l’antigène

marqueur du CMH

cellule LT CD4

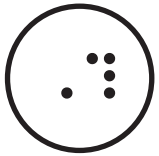
cellule LT CD8



La sélection clonale

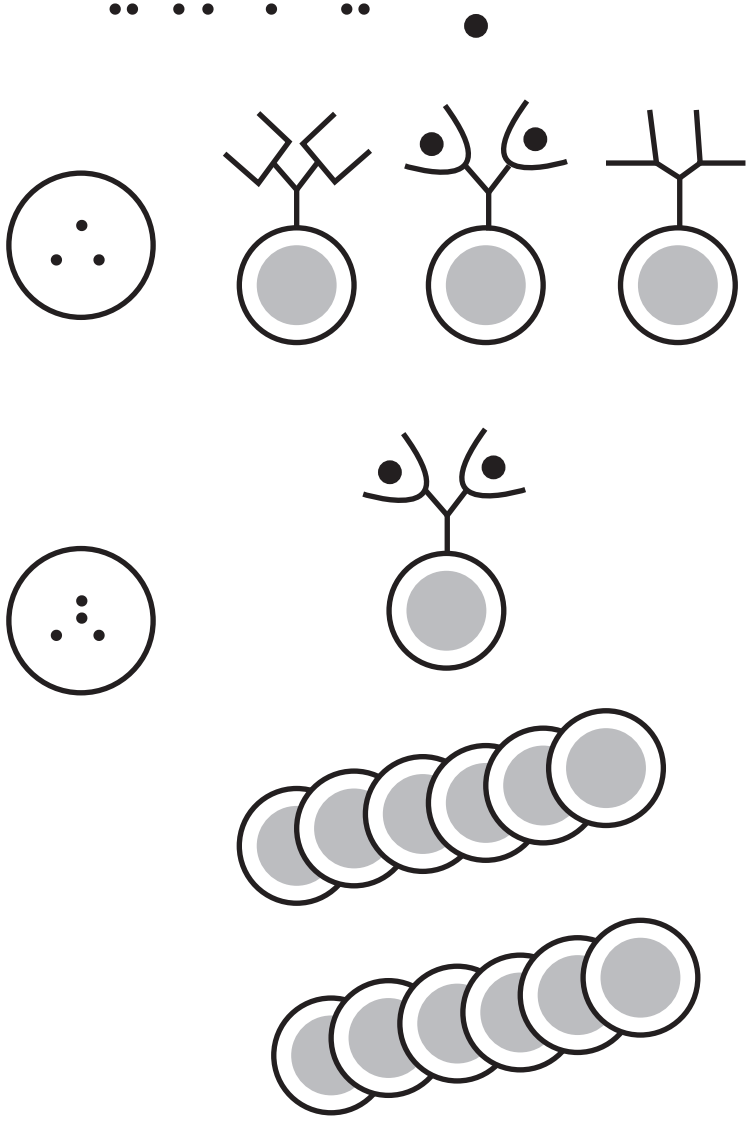
L’amplification clonale

La différenciation clonale

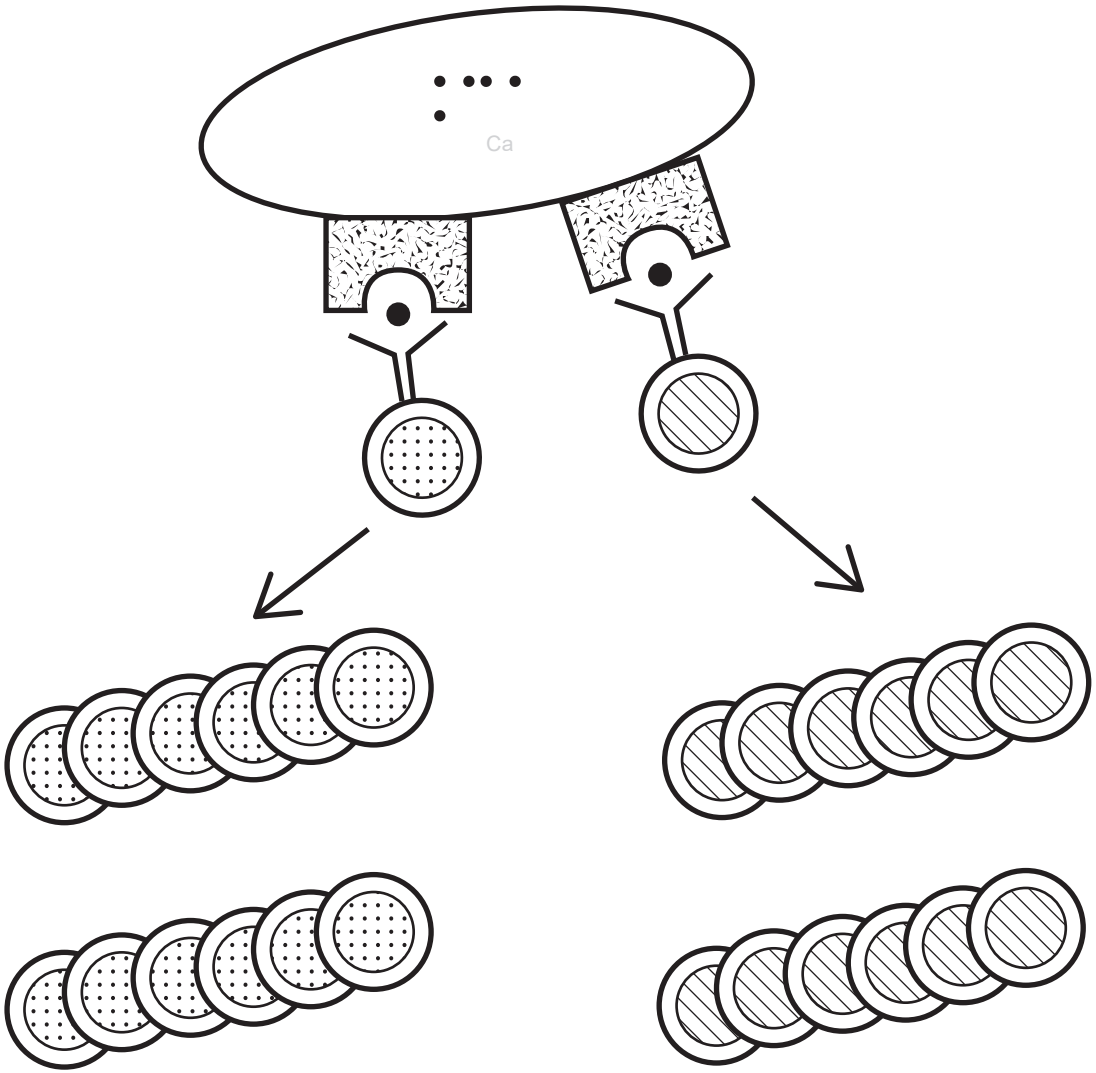


La phase effectrice
les LB se transforment en plasmocytes qui sécrètent des anticorps qui sont à l’origine de la formation complexes immuns antigènes-anticorps
Les LTc lysent une cellule cible (porteuse du même antigène)
Les complexes immuns et débris céllulaires sont éliminés par la phagocytose

par les
lymphocytes B (LB)

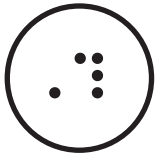


par les lymphocytes T
(LT CD4 et LT CD8)



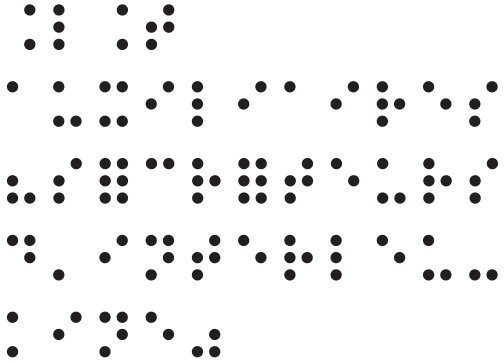
2021-2022 - Service Transcription - www.ctrdv.fr

LB mémoire



Plasmocytes

LT CD4
mémoire



LT
auxiliaires
(sécréteurs d'interleukine)

LT CD8
mémoire

LT cytotoxiques