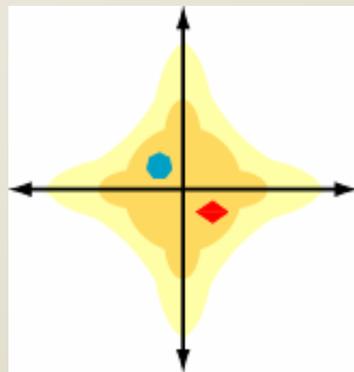
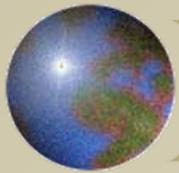


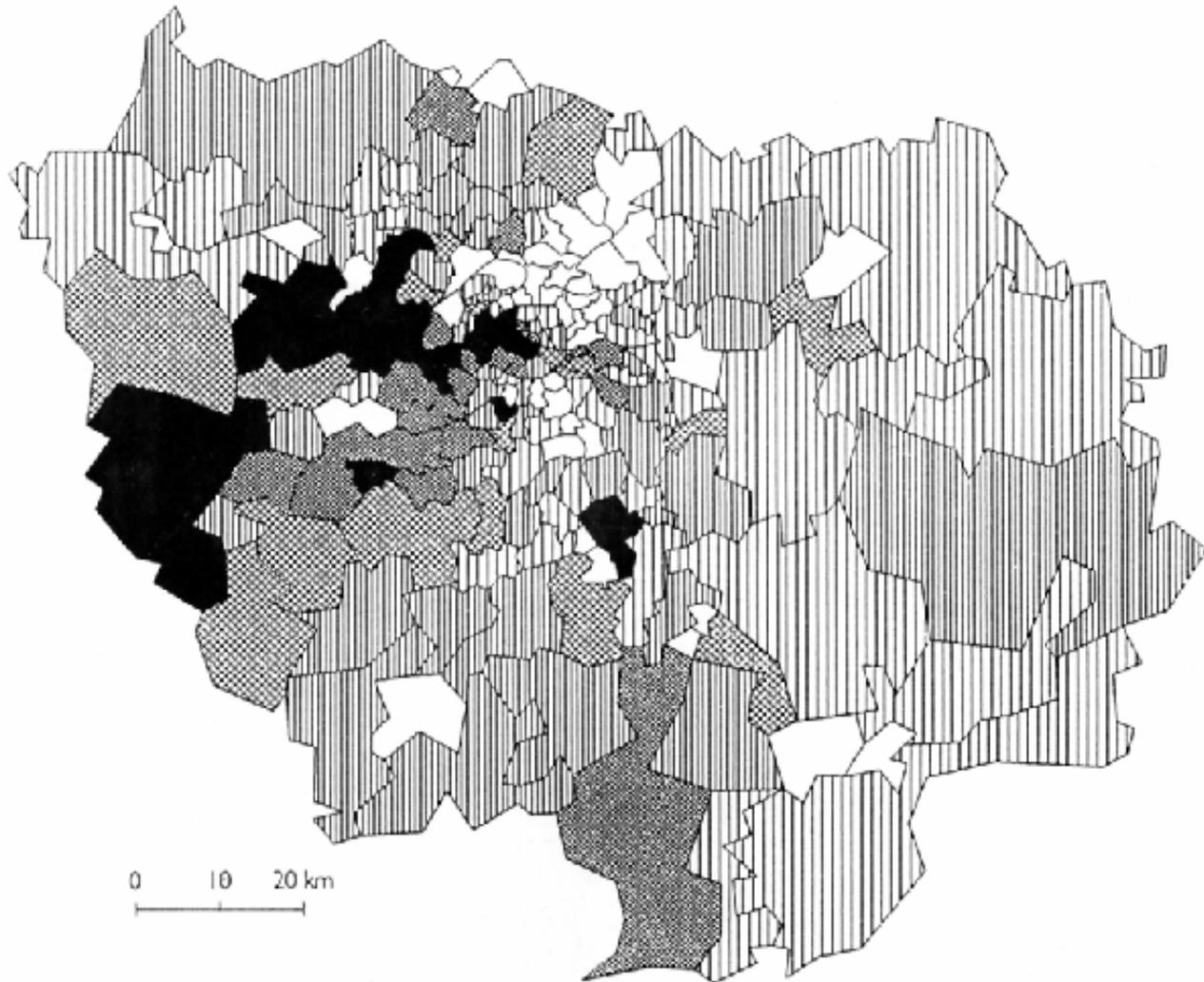
Christian Grataloup  
(*université de Paris – Diderot / UMR Géographie-Cités*)

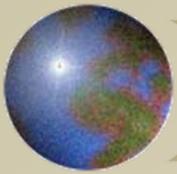
*Atelier ISA – 6 mars 2007*  
**Modélisation graphique**  
*Principes généraux*





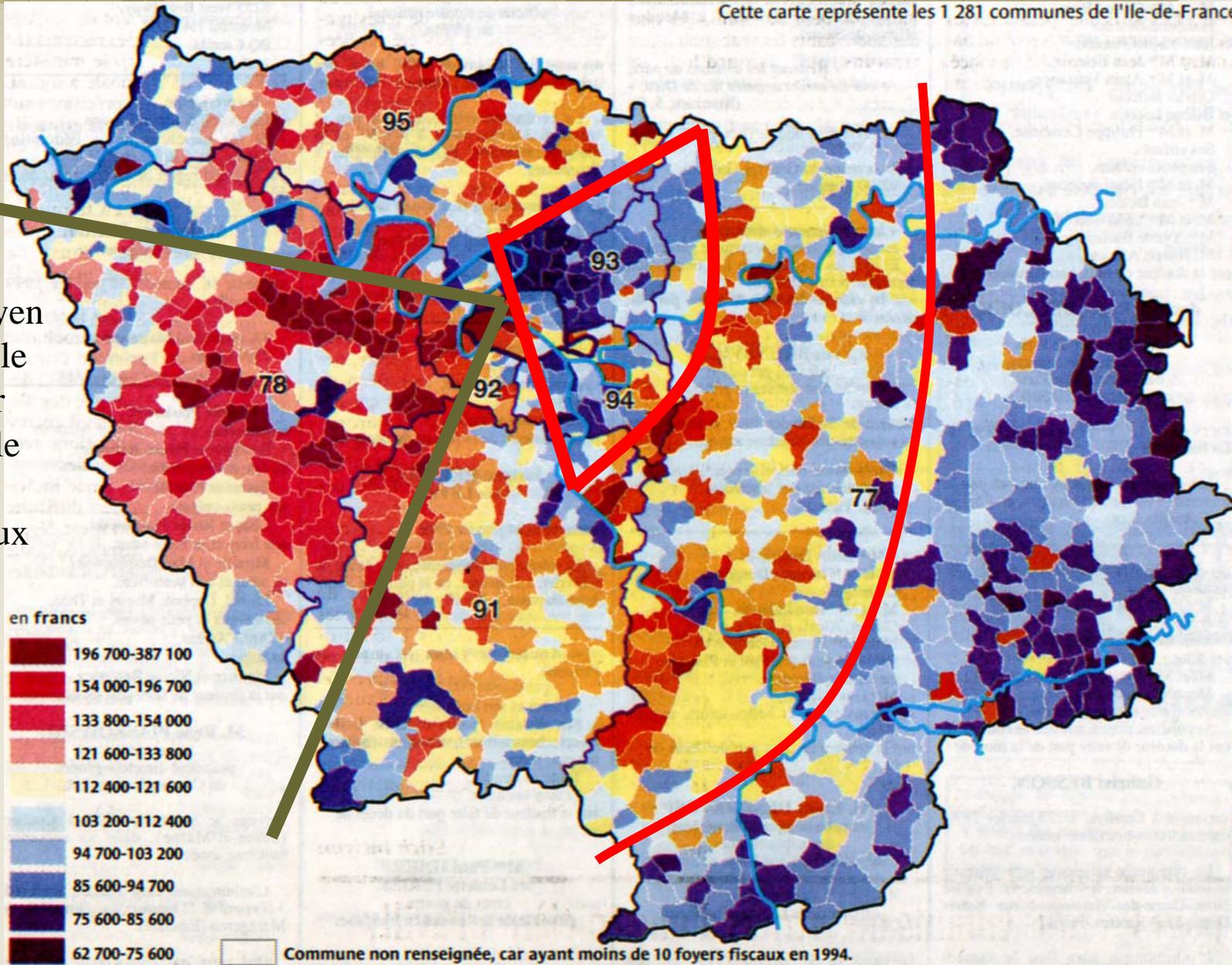
**Exemple de  
démarche  
synchronique :  
Géographie  
des revenus en  
Ile-de-France**

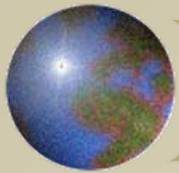




Cette carte représente les 1 281 communes de l'Île-de-France

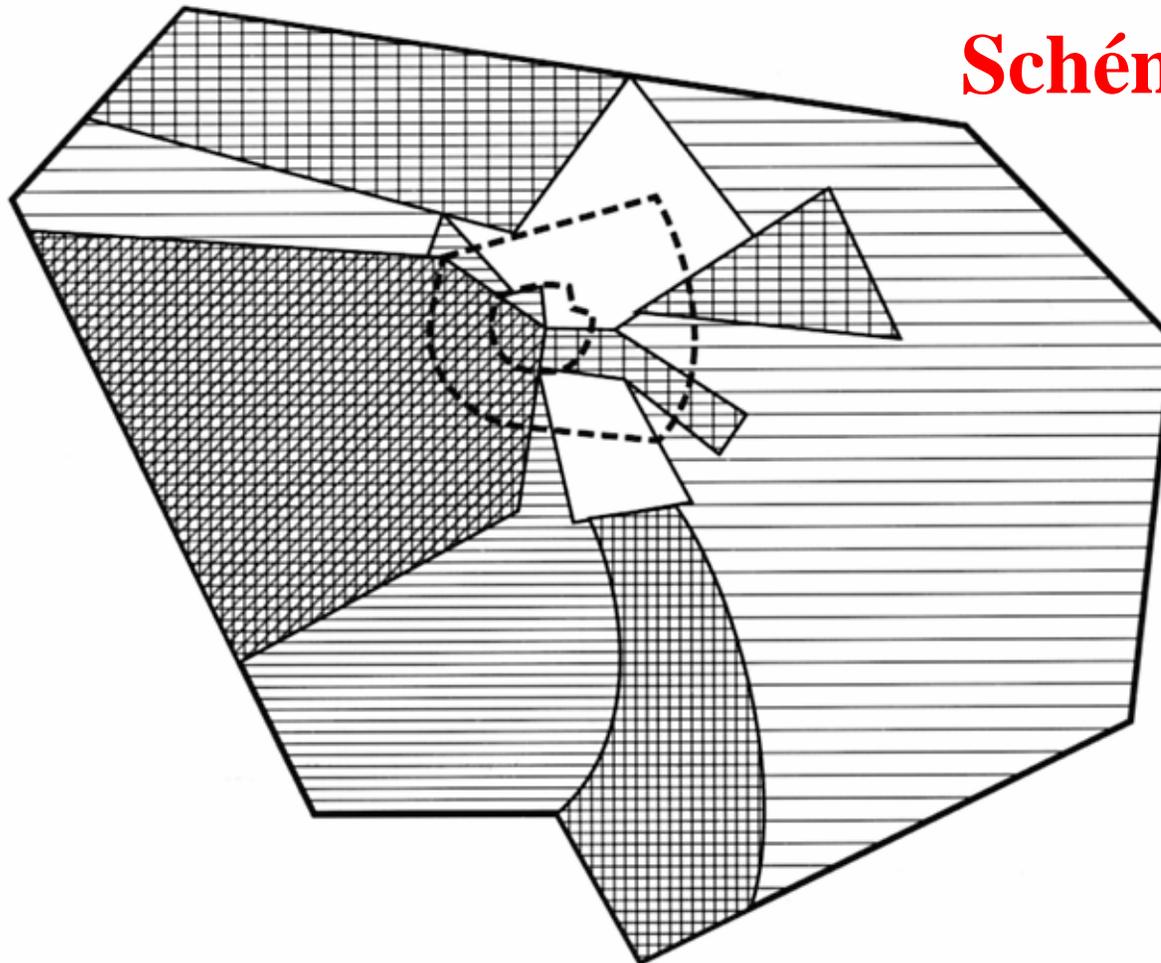
Revenu moyen net imposable déclaré pour l'impôt sur le revenu des foyers fiscaux en 1994





## Analyse graphique de la répartition des revenus dans la région parisienne

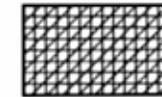
A. Schématisation de la répartition des revenus dans l'agglomération de Paris (annexe élève 2)



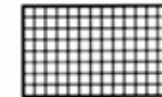
### Schéma

--- Limites de Paris  
et de la petite couronne

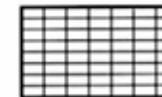
Secteurs de revenus:



très riche



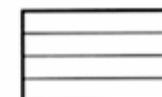
riche



aisé



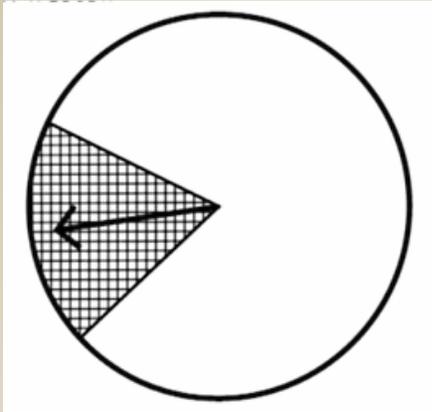
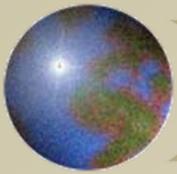
moyen



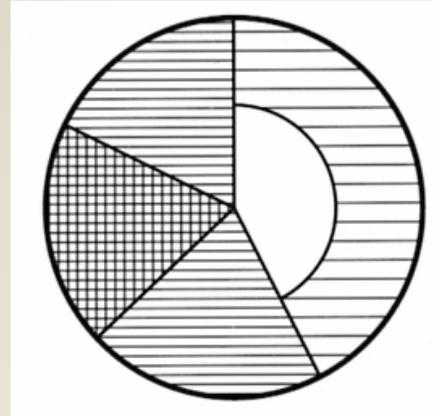
modeste



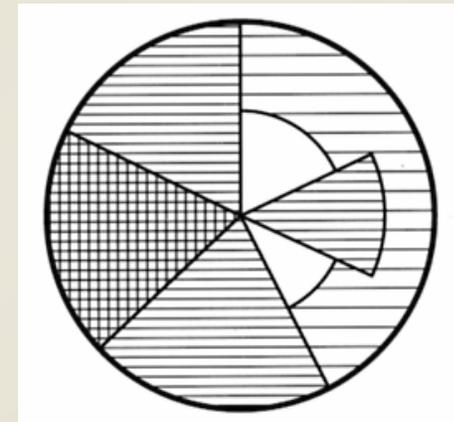
pauvre



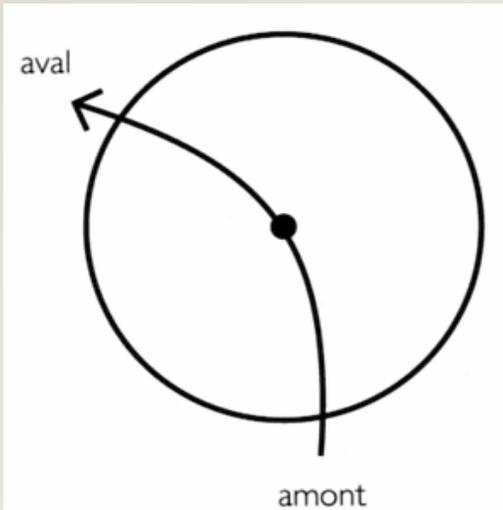
**1. Localisation des riches « d'un côté »**



**2. Avec des transitions...**



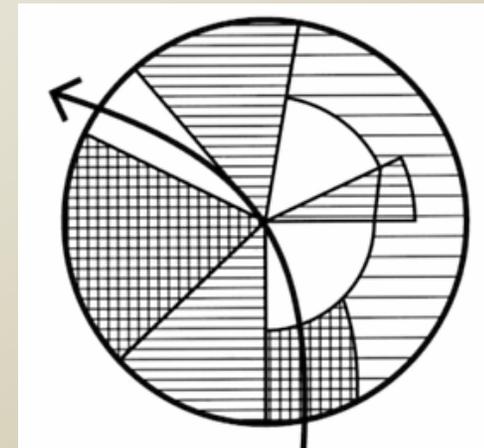
**3. ...et des inversions dues à l'effet de taille.**



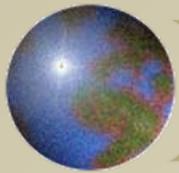
**4. Modification par le site: l'axe fluvial**



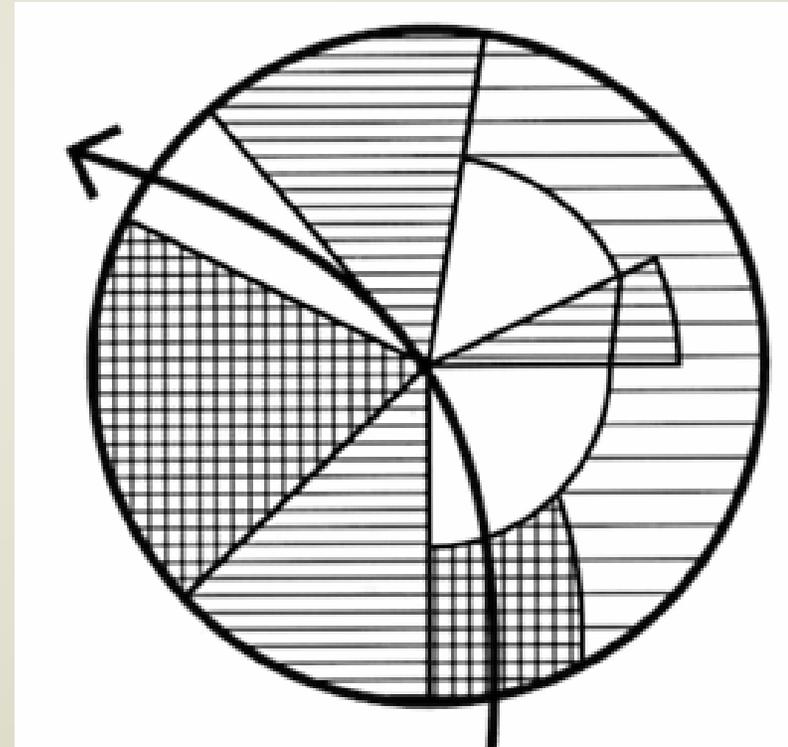
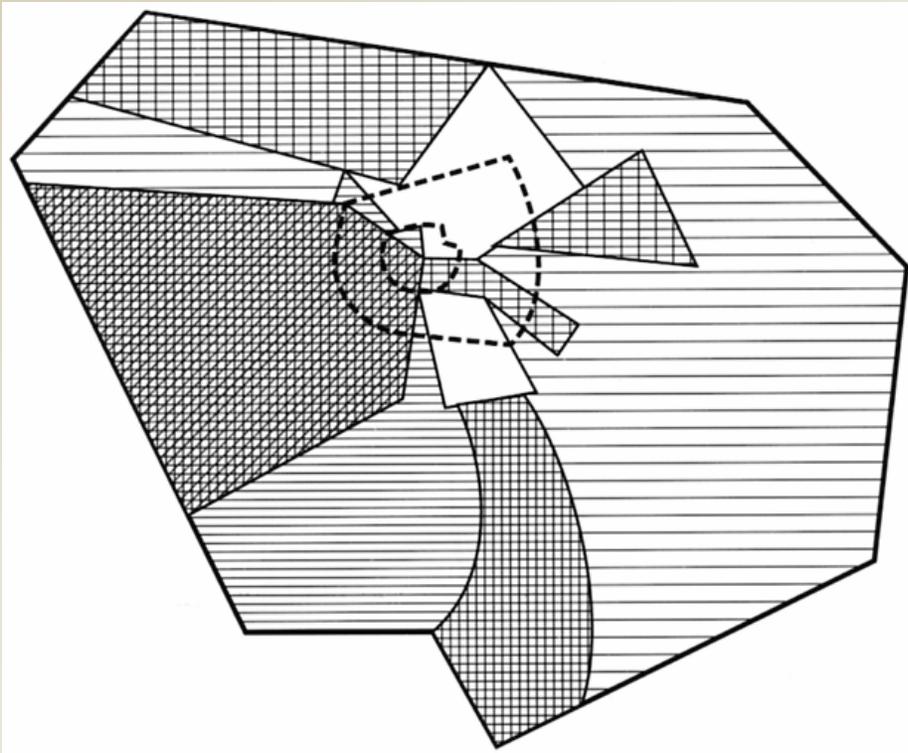
**5. Le cours d'eau = à la fois un axe de transport et un site agréable**

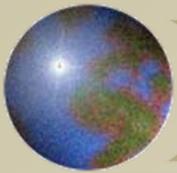


**6. Interaction des logiques qui donne un modèle global**

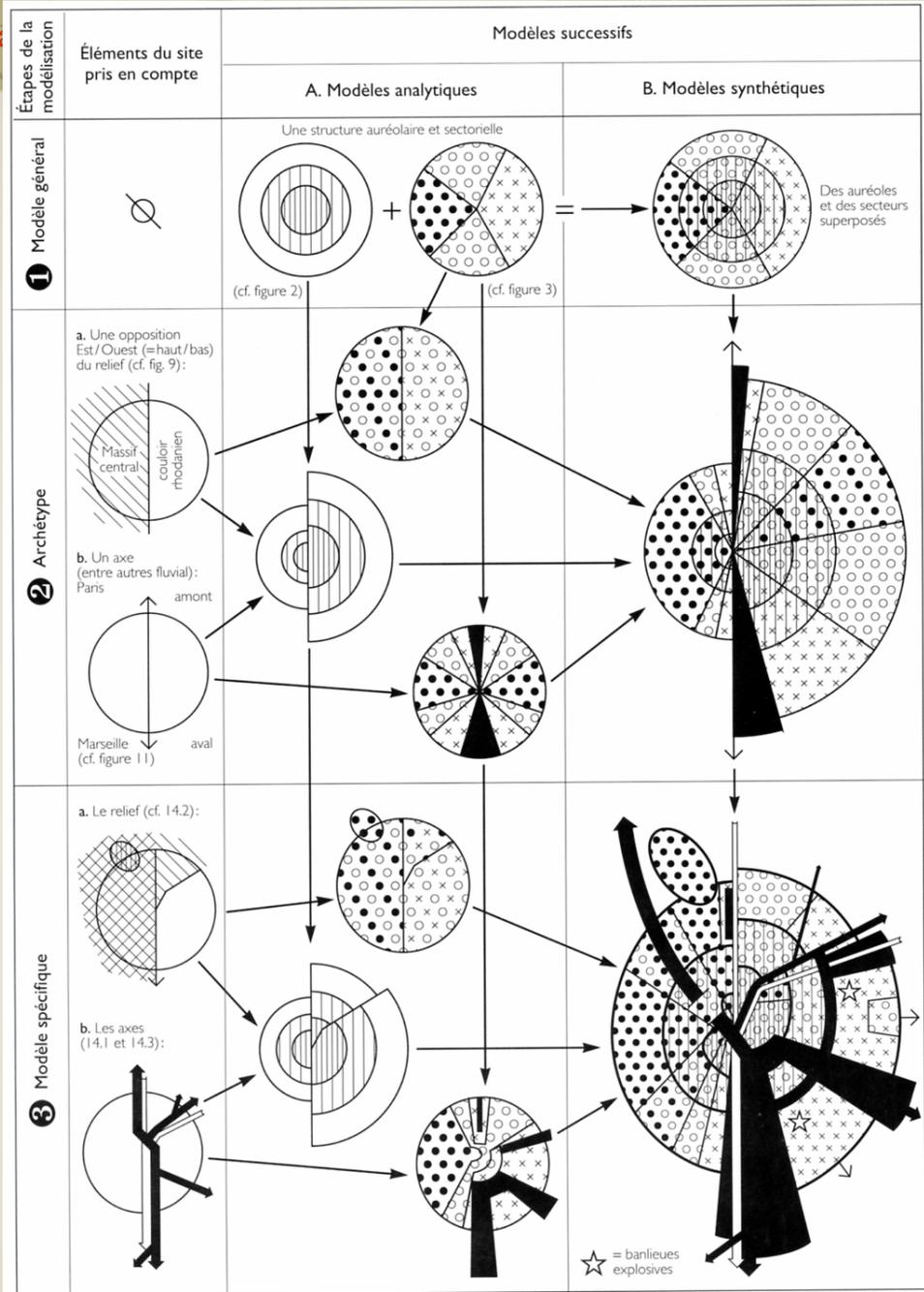


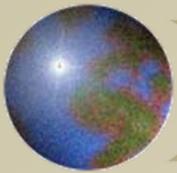
***In fine*, il faut confronter « l'information » simplifiée (schéma) et l'explication proposée (modèle graphique)**

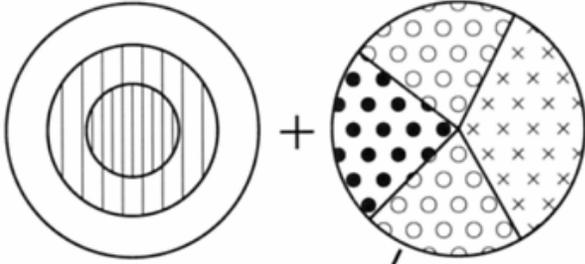
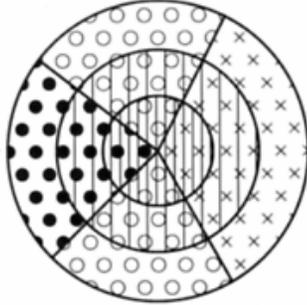


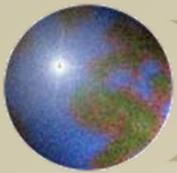


L'enjeu des chorotypes



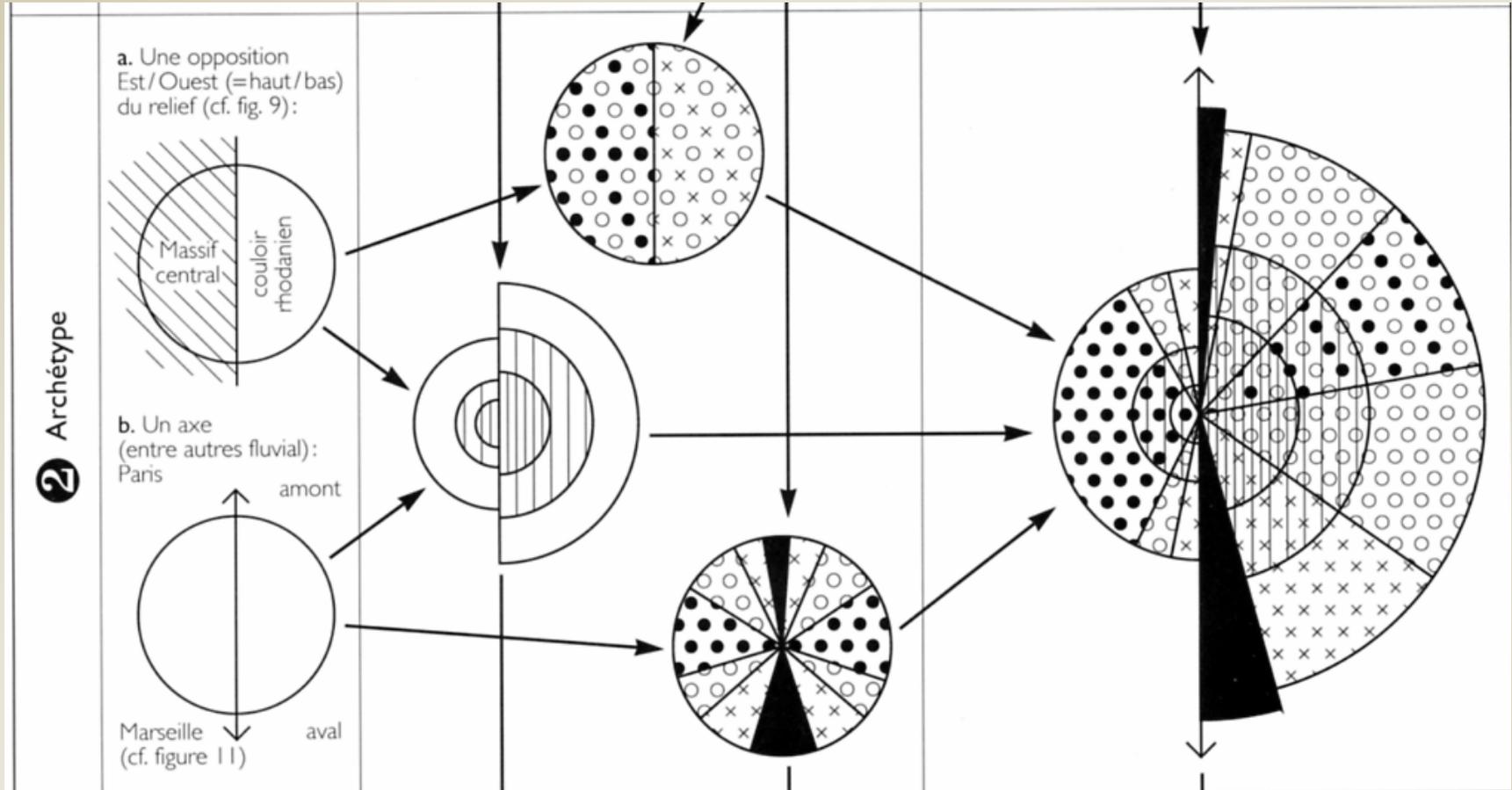
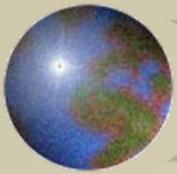


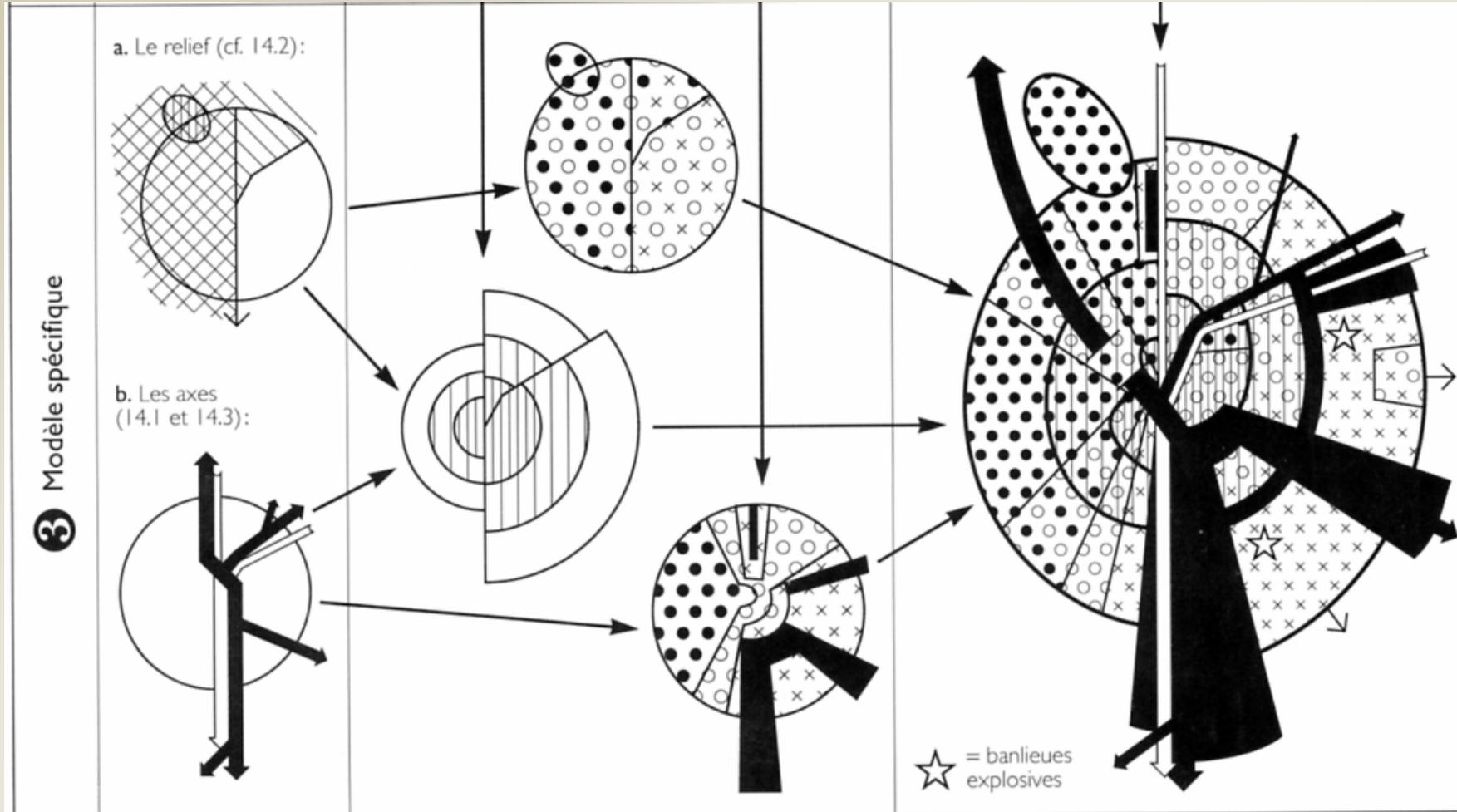
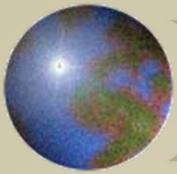
Étapes de la modélisation	Éléments du site pris en compte	Modèles successifs	
		A. Modèles analytiques	B. Modèles synthétiques
<b>1</b> Modèle général		<p>Une structure auréolaire et sectorielle</p>  <p>(cf. figure 2)      (cf. figure 3)</p>	 <p>Des auréoles et des secteurs superposés</p>

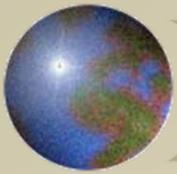


L'enjeu des chorotypes

Étapes de la modélisation	Éléments du site pris en compte	Modèles successifs	
		A. Modèles analytiques	B. Modèles synthétiques
1	Modèle général	<p>Une structure auréolaire et sectorielle</p> <p>(cf. figure 2)   (cf. figure 3)</p> <p>Des auréoles et des secteurs superposés</p>	
2	Archétype	<p>a. Une opposition Est/Ouest (=haut/bas) du relief (cf. fig. 9):</p> <p>b. Un axe (entre autres fluvial): Paris</p>	



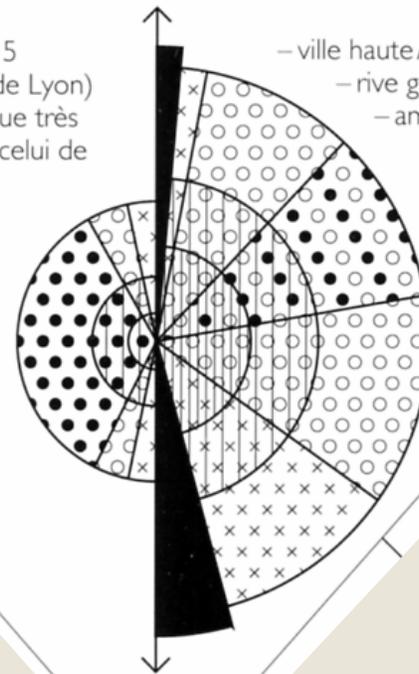




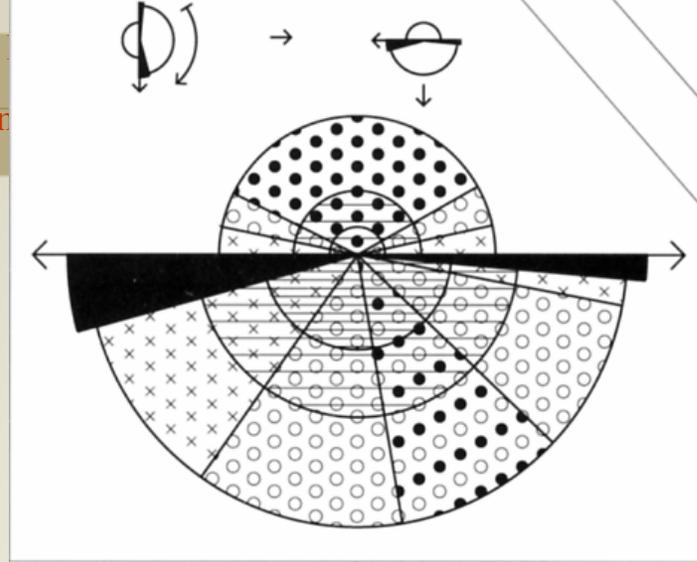
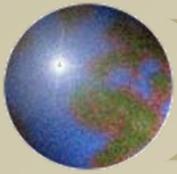
**A. Lyon**

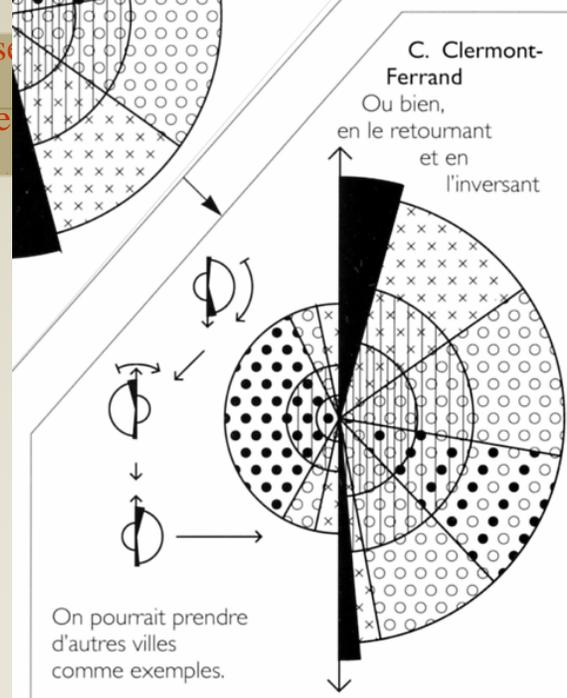
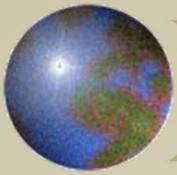
L'étape intermédiaire de la planche 15  
(réalisation du modèle spécifique de Lyon)  
aboutissait à un modèle spécifique très  
schématisé, qui pourrait être celui de  
bien d'autres villes...

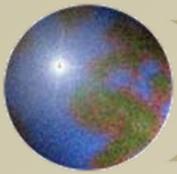
Il s'agit simplement de la  
combinaison de trois  
archétypes:



– ville haute/ville basse (cf. figure 9);  
– rive gauche/rive droite;  
– amont/aval (figure 11).

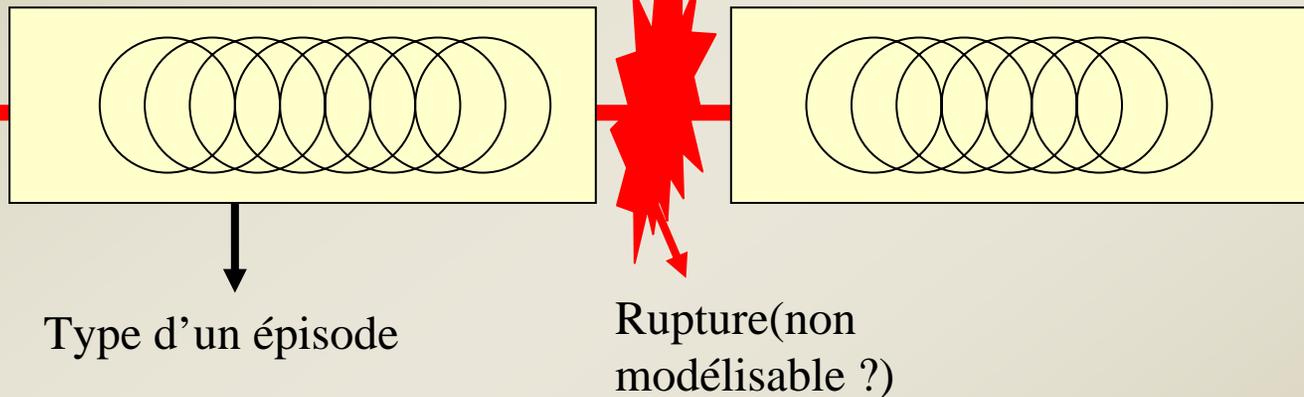






## Tension entre modélisation et historicité

### Enchaînement type d'épisodes



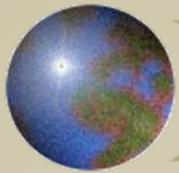
Épisode 1

Épisode 2

Épisode 3

Épisode 4

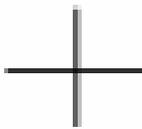
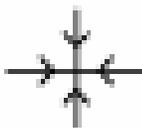
Etc.



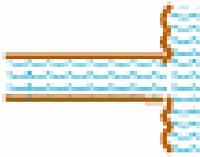
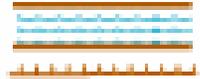
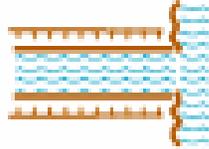
# Un effort de systématisation

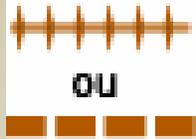
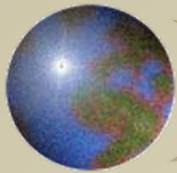
un langage simplifié (cf. *Mode d'emploi* fig.3)

## voies de communication : en noir

	axe
	carrefour
	patte d'oie
	chemin de fer
	autoroute

## site : en beige et bleu

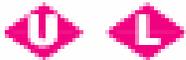
	talus
	cours d'eau
	littoral
	estuaire
	vallée encaissée
	estuaire encaissé
	littoral abrupt
	zone inondable



rupture morphologique,  
obstacle, effet de barrière  
(digue, levée...)



grand ensemble HLM (cité)  
*cf. mappemonde n°74, Danièle Rapetti  
article sur nantes*



université, lycée (20<sup>e</sup> s.)



technopôle...



patrimonialisation



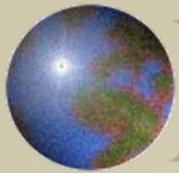
secteur social, catégorie "favorisée"



secteur social, catégorie "moyenne"



secteur social, catégorie "précaire"



# Des variables visuelles de base

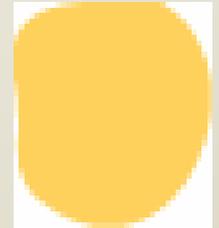
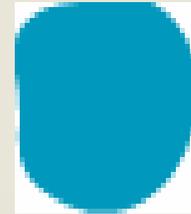
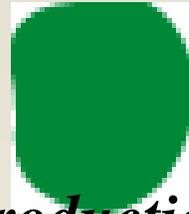
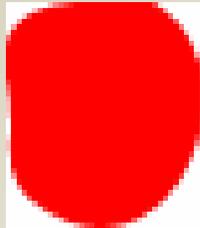
**Trame  
banale de  
la ville**

**Politique**

**Economique**

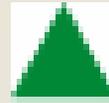
**Religieux**

**Surfacique**



*production*

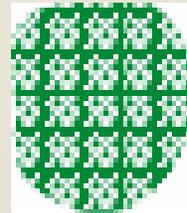
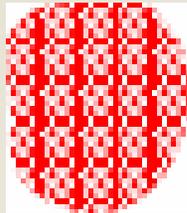
**Ponctuel**



**Militaire**

*commerce*

**Surfacique**

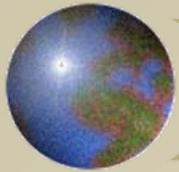


**Ponctuel**



**Linéaire**





# Présentation des pri

Représentation	fonction	surfacique	ponctuel	linéaire (encintes)
Politique	"développée"			
	"standard"			
	"moins développée"			
Militaire	"développée"			
	"standard"			
	"moins développée"			
Economique - production	"développée"			
	"standard"			
	"moins développée"			
Economique - commerce	"développée"			
	"standard"			
	"moins développée"			
Religieux	"développée"			
	"standard"			
	"moins développée"			
"trame banale de la ville" : densité	forte			
	moyenne			
	faible			

## voies de communication : en noir

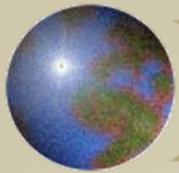
- axe
- carrefour
- patte d'oie
- chemin de fer
- autoroute

## site : en beige et bleu

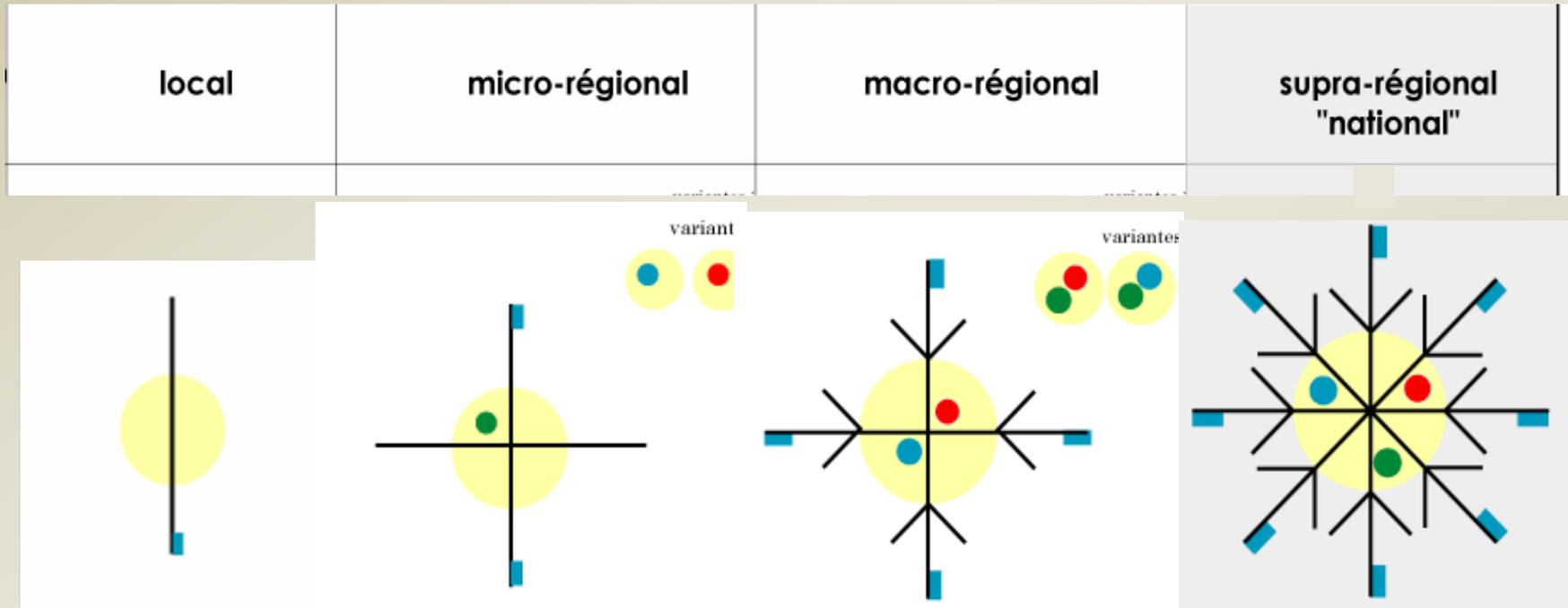
- talus
- cours d'eau
- littoral
- estuaire
- vallée encaissée
- estuaire encaissé
- littoral abrupt
- zone inondable

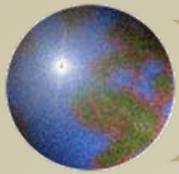
## Proposition de complément de légende pour le 3 mars 2006

- rupture morphologique, obstacle, effet de barrière (digue, levée...)
- grand ensemble HLM (cité) cf. mappemonde n°74, Danielle Rapetti article sur nantes
- université, lycée (20<sup>e</sup> s.)
- technopôle...
- patrimonialisation
- secteur social, catégorie "favorisée"
- secteur social, catégorie "moyenne"
- secteur social, catégorie "précaire"

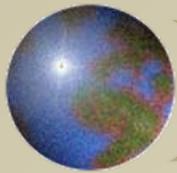


## Prise en compte d'un réseau urbain





hiérarchie réseau épisodes	local	micro-régional	macro-régional	supra-régional "national"
<b>épisode 1</b> - 50 / + 250				
<b>épisode 2</b> 250 / 900				
<b>épisode 3</b> 900 / 1250				
<b>épisode 4</b> 1250 / 1600				
<b>épisode 5</b> 1600 / 1840				
<b>épisode 6</b> 1840 / 1945				
<b>épisode 7</b> 1945 / 2000				



## Typologie et dynamique

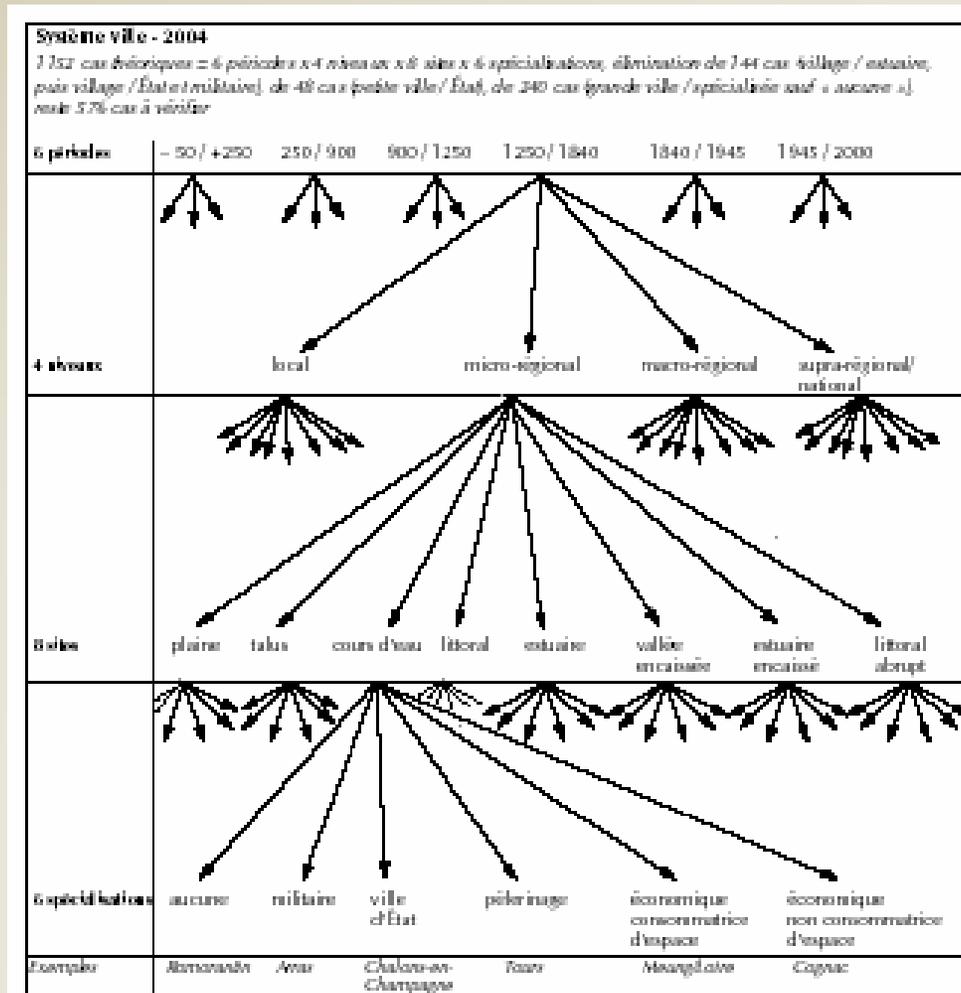
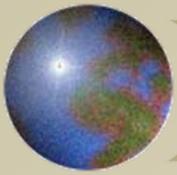
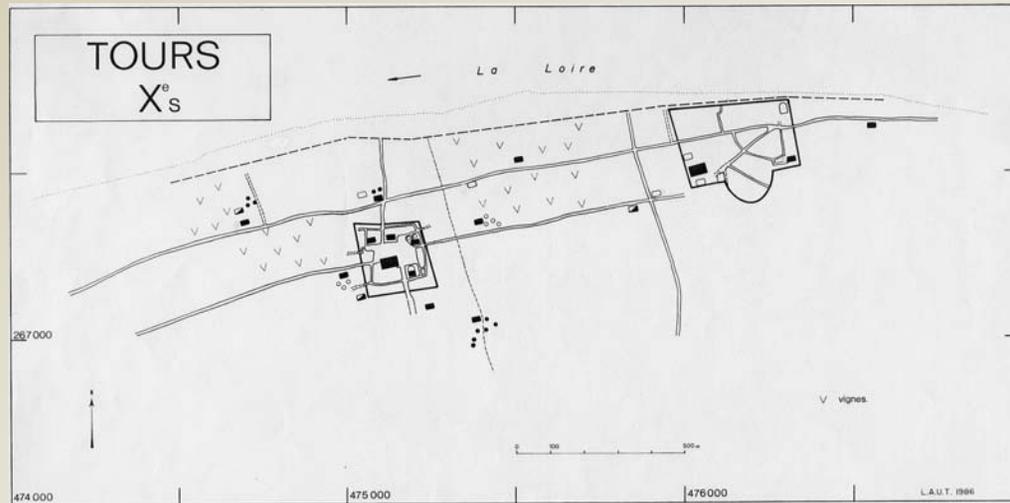


Fig. 2. Construction du système ville (B. Boissacot-Camus, G. Djawant, B. Dufaj, H. Galinier, C. Grataloup, C. Guillemeau, X. Rodier).

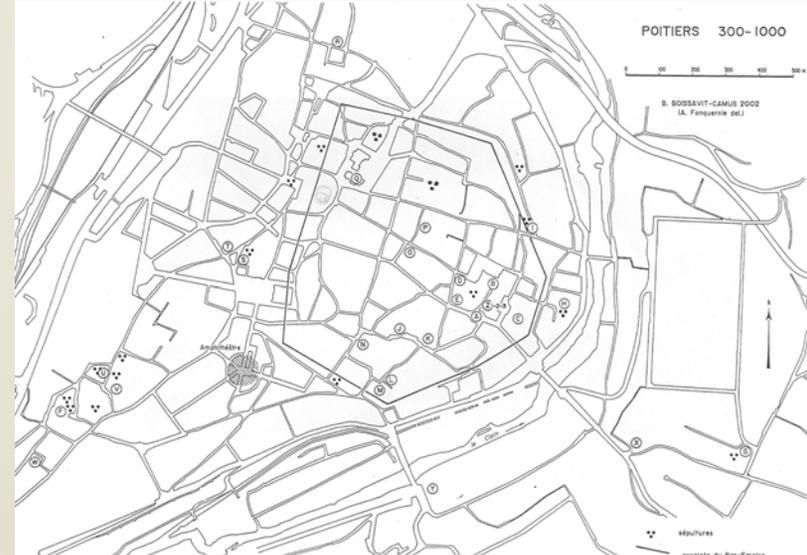


# Tours/Poitiers : une comparaison synchronique.

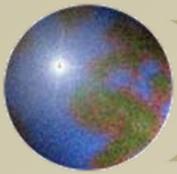
Première démarche : deux schématisations convergentes.



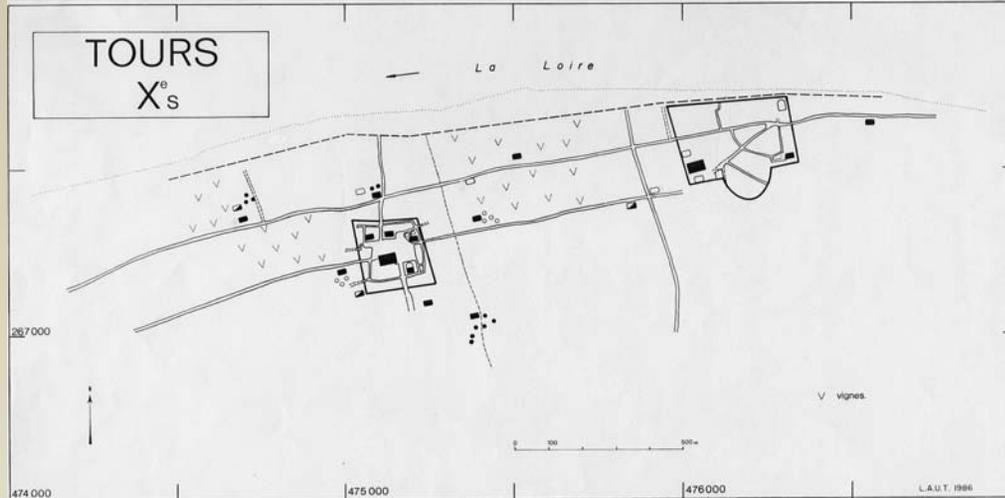
Tours au 10<sup>e</sup> siècle, extrait de Galinié, Randoïn , *Les archives du sol à Tours*, 1979



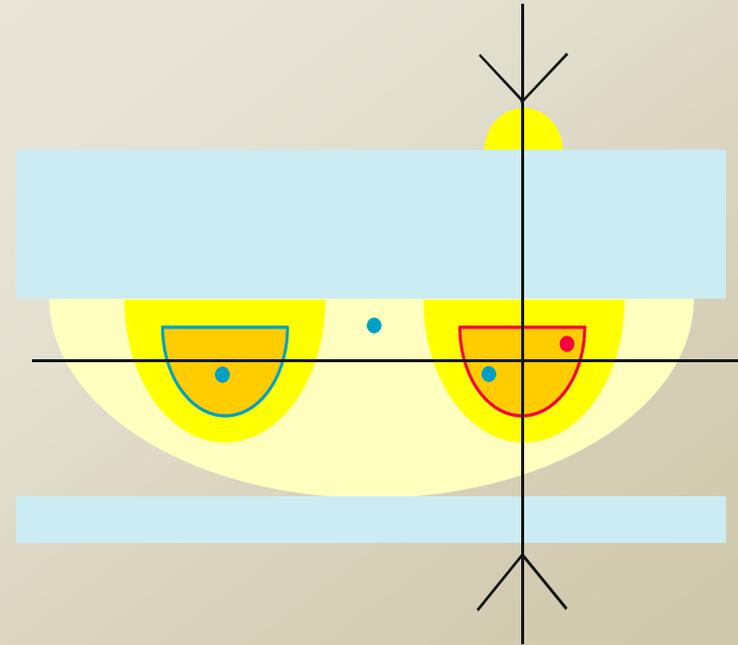
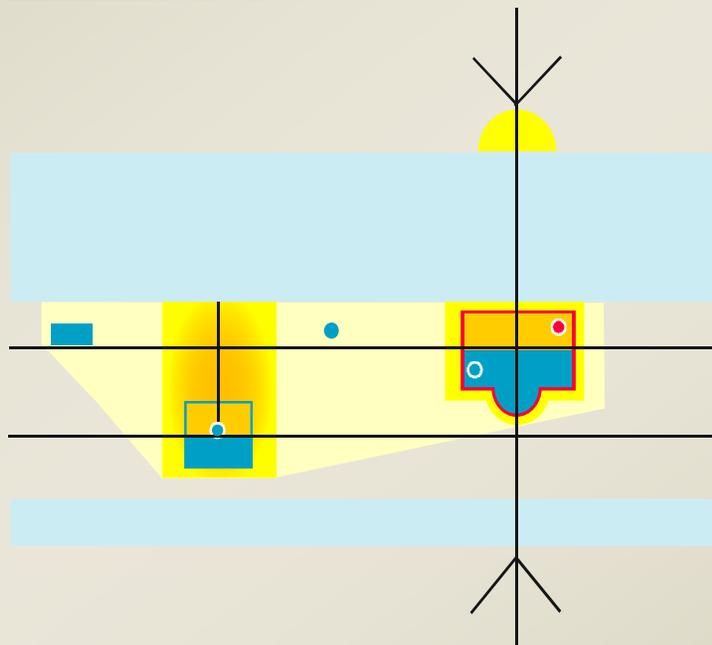
Poitiers 300 - 1000, extrait de Boissavit-Camus, *Poitiers, Real lexicon* 2003

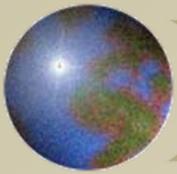


## Tours/Poitiers : une comparaison synchronique.



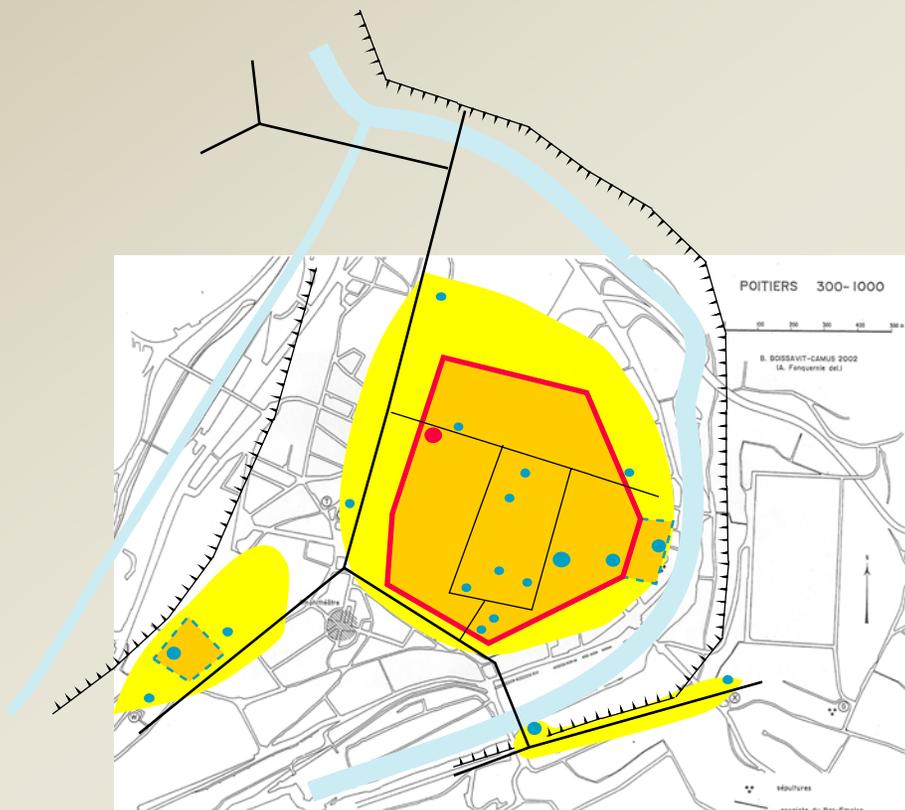
## Tours

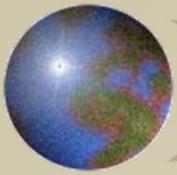




Tours/Poitiers : une comparaison synchronique.

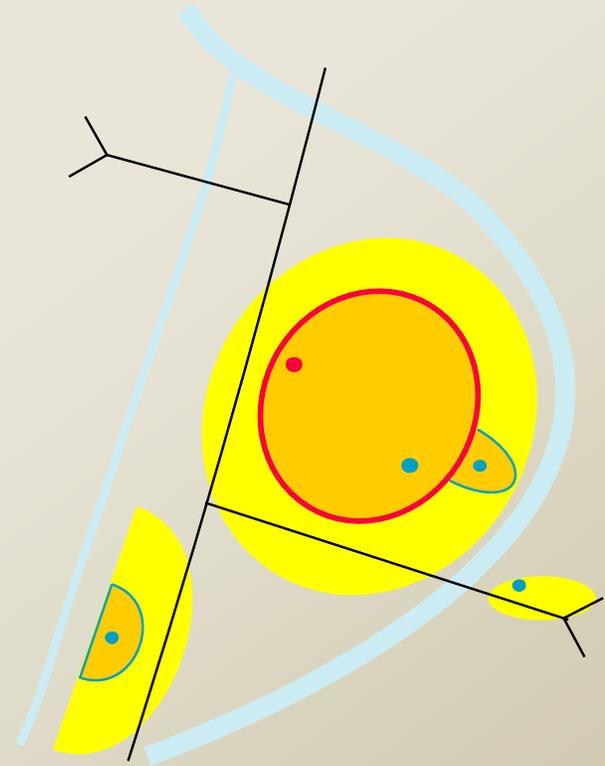
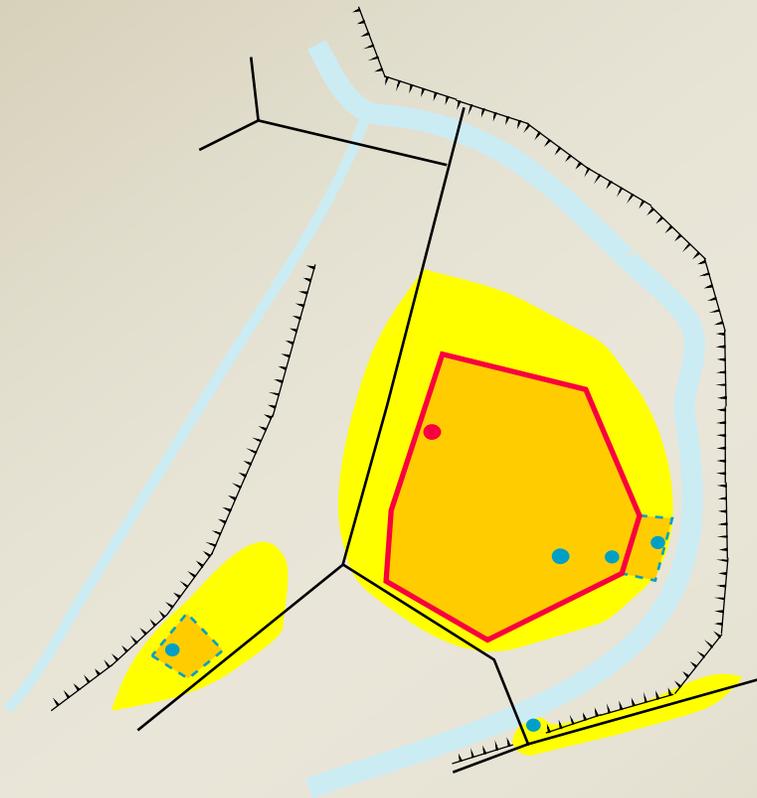
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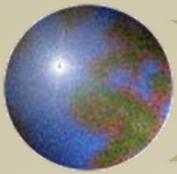




Tours/Poitiers : une comparaison synchronique.

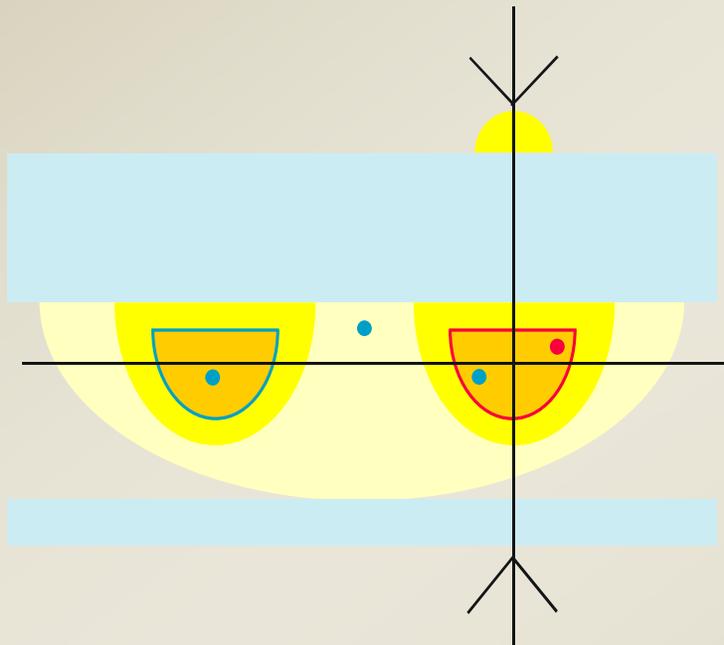
# Poitiers



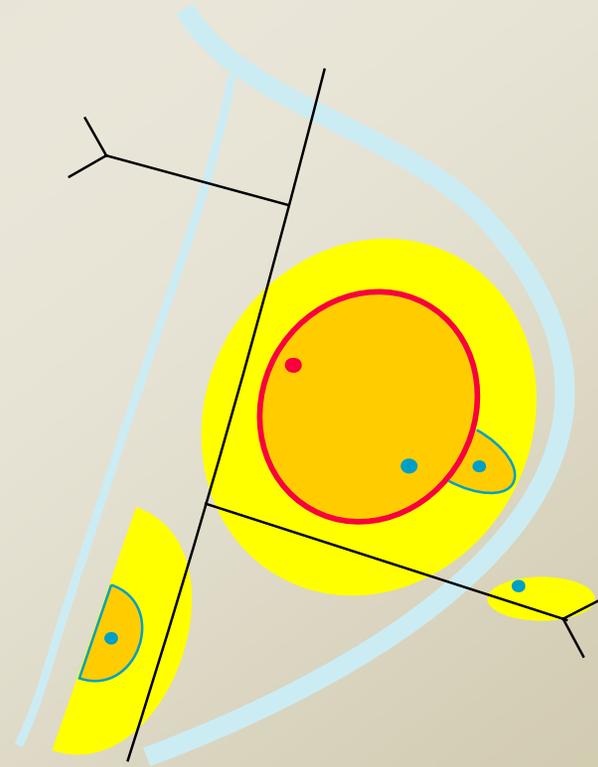


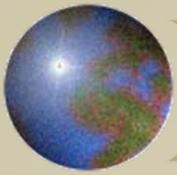
Tours/Poitiers : une comparaison synchronique.

## Tours

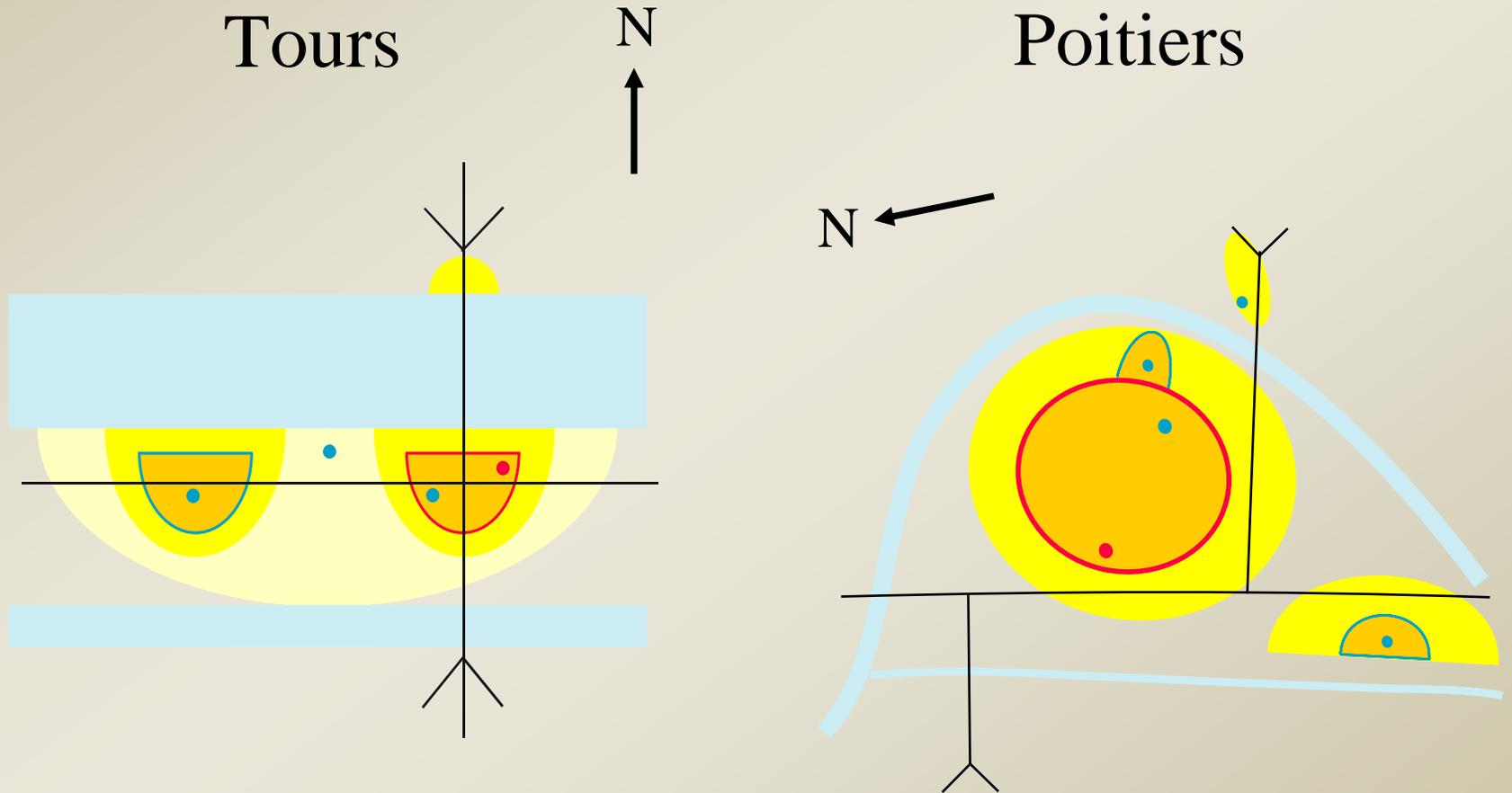


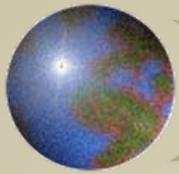
## Poitiers



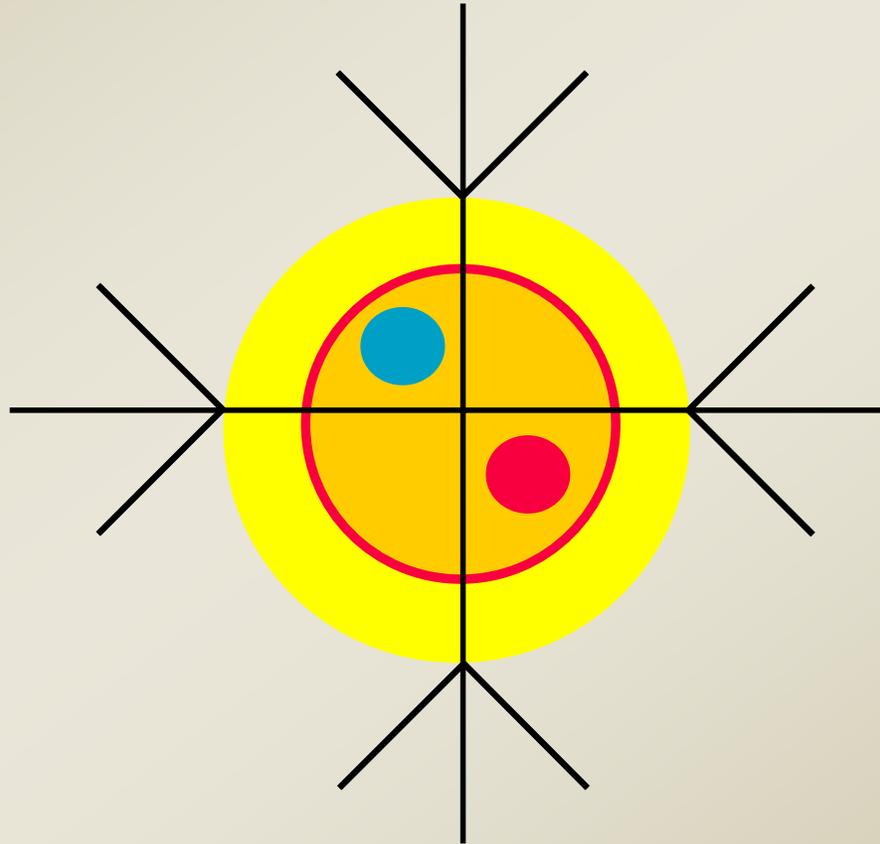


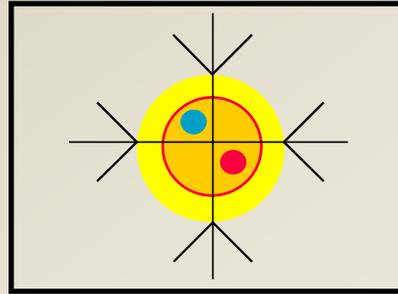
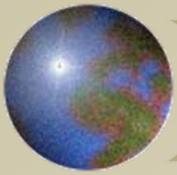
### Tours/Poitiers : une comparaison synchronique.



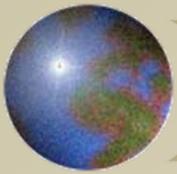


## Seconde démarche: Une modélisation commune.

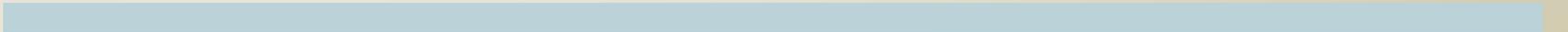


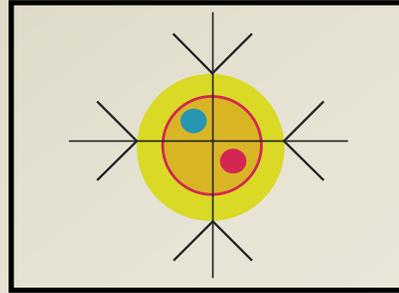
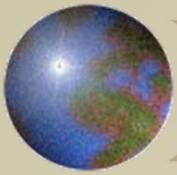


Tours/Poitiers :  
une comparaison  
synchronique.

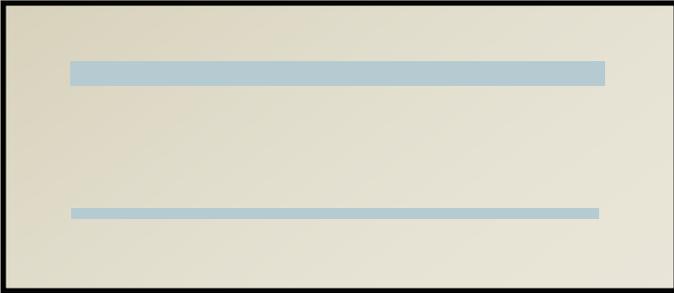


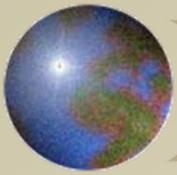
Tours/Poitiers : une comparaison synchronique.



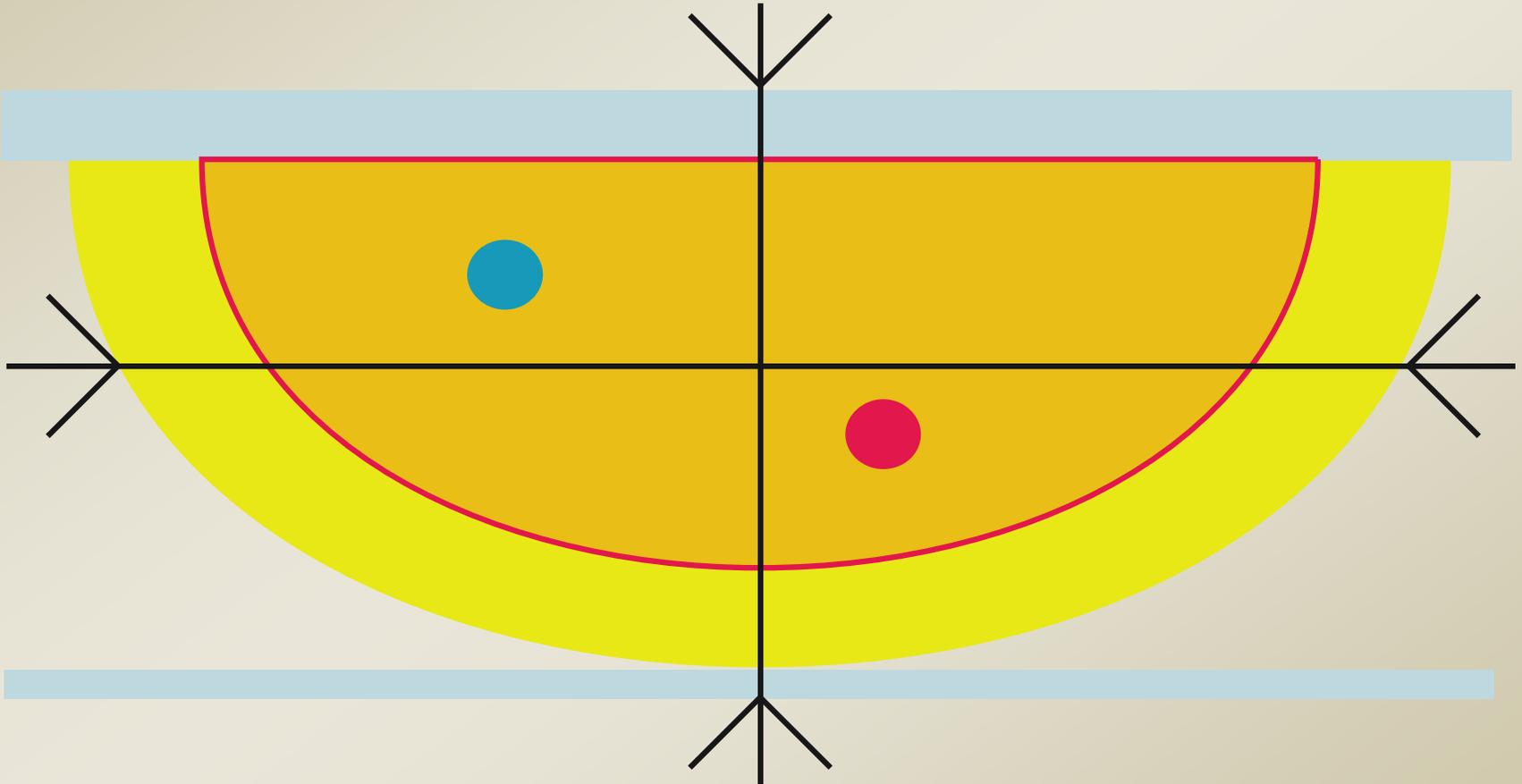


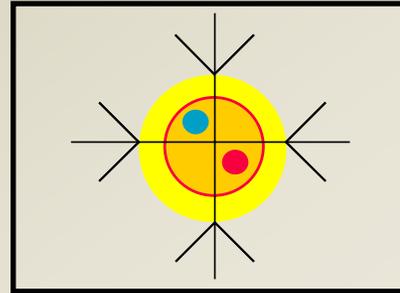
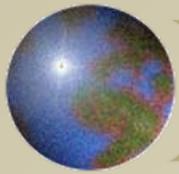
Tours/Poitiers : une  
comparaison  
synchronique.



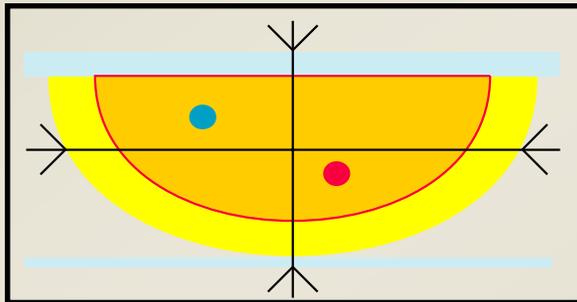
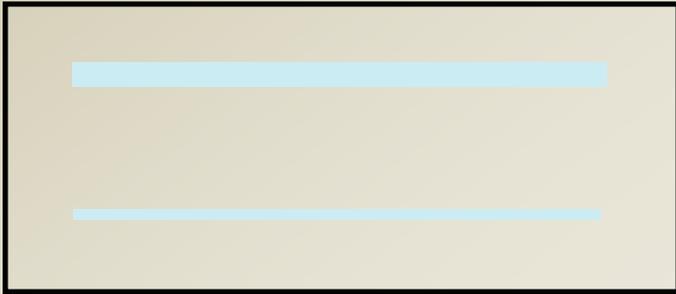


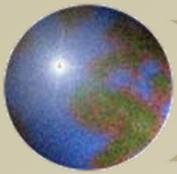
## Tours/Poitiers : une comparaison synchronique.



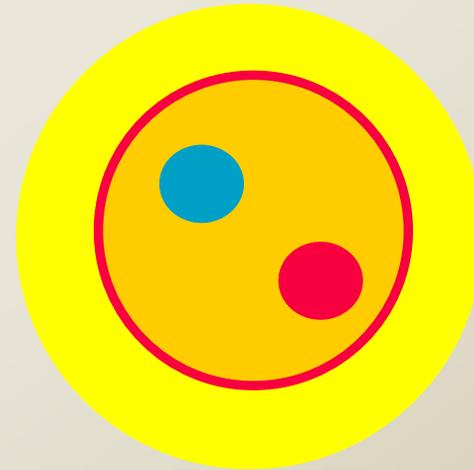
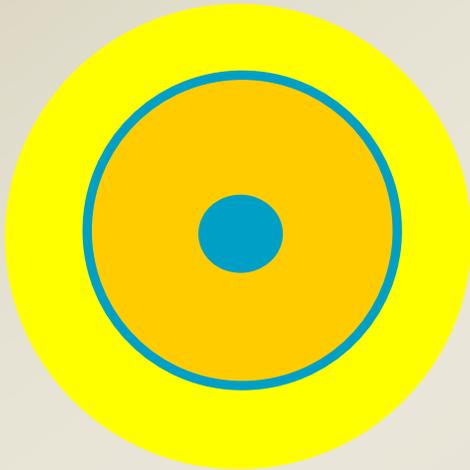


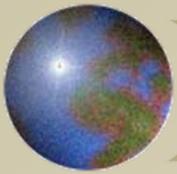
Tours/Poitiers : une  
comparaison  
synchronique.



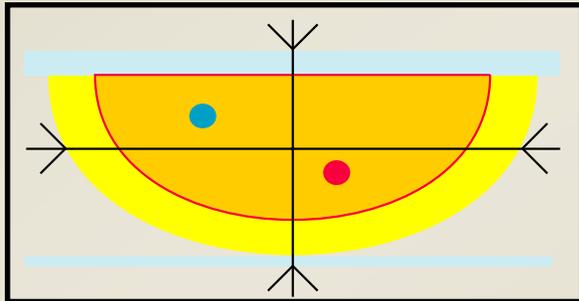
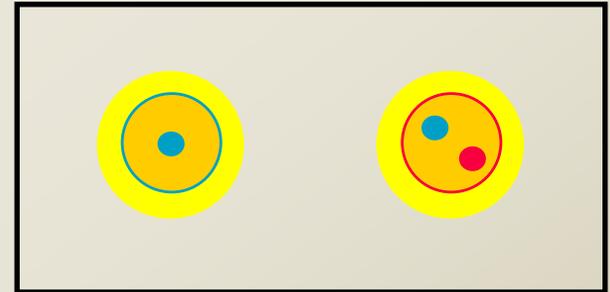
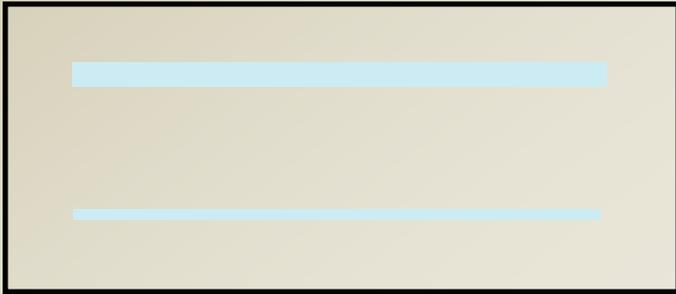
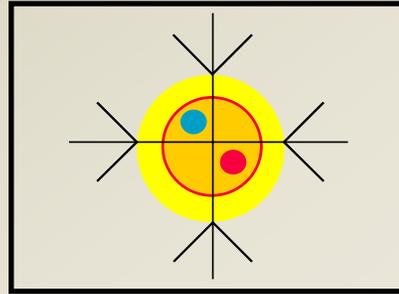


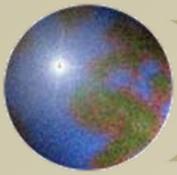
## Tours/Poitiers : une comparaison synchronique.



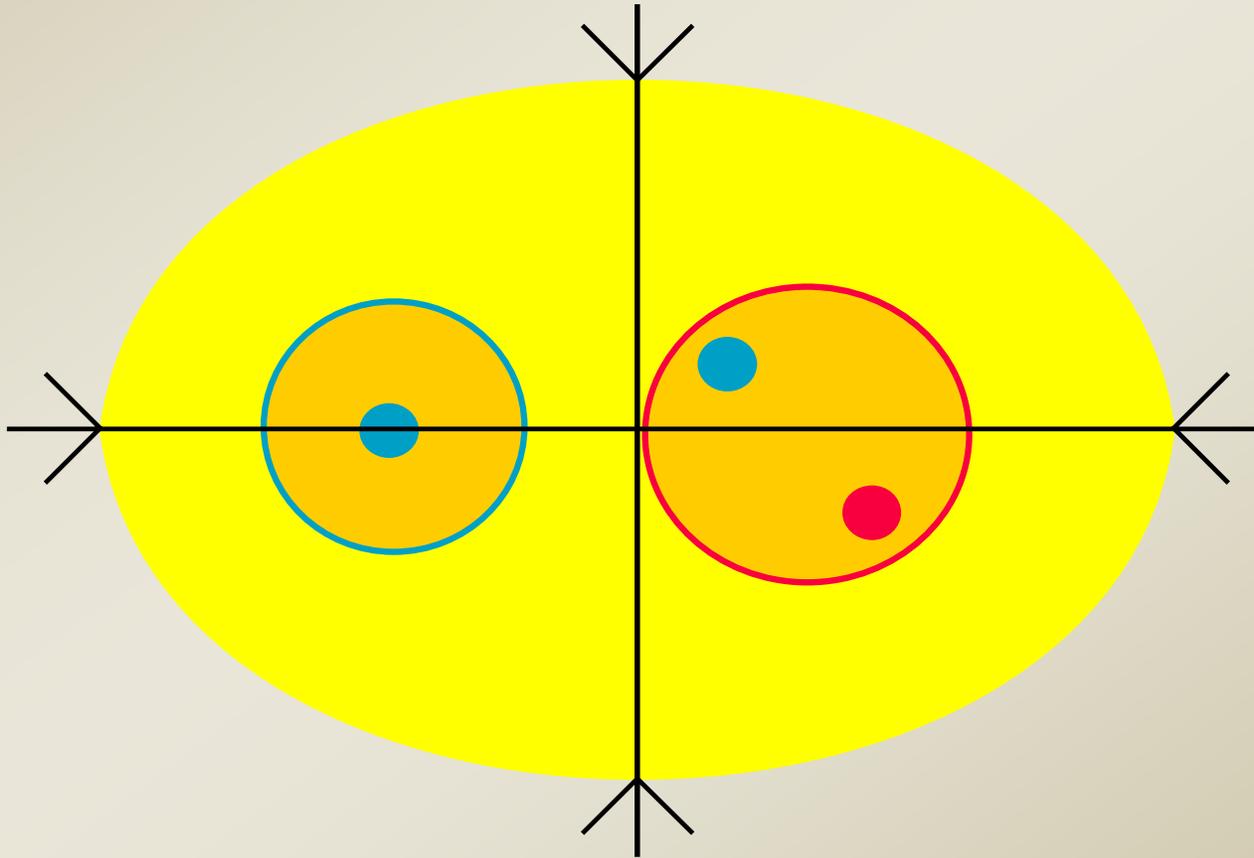


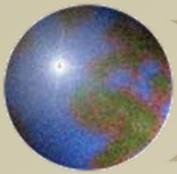
# Tours/Poitiers : une comparaison synchronique.



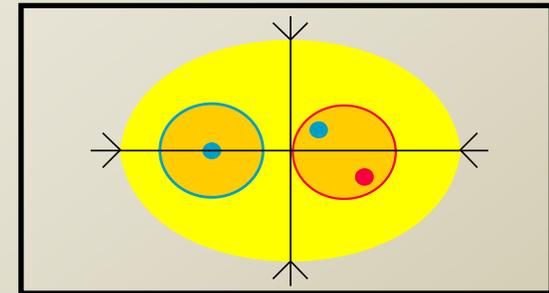
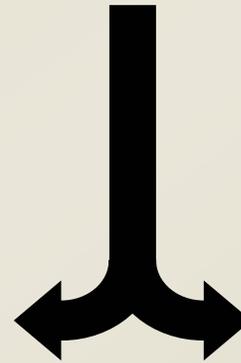
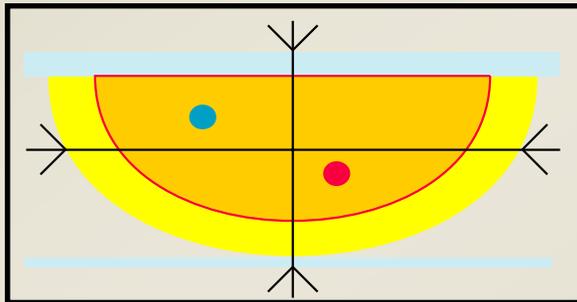
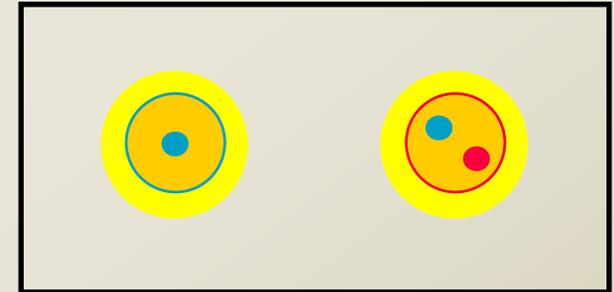
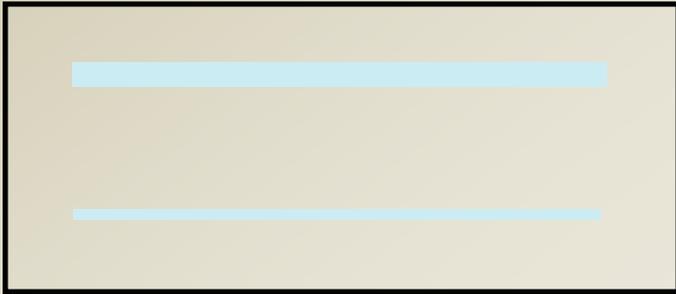
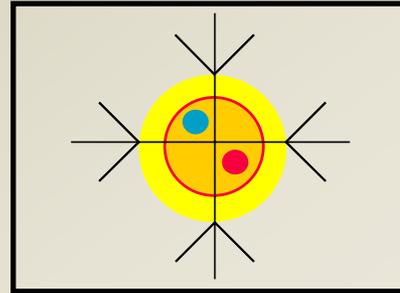


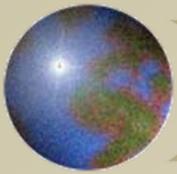
## Tours/Poitiers : une comparaison synchronique.



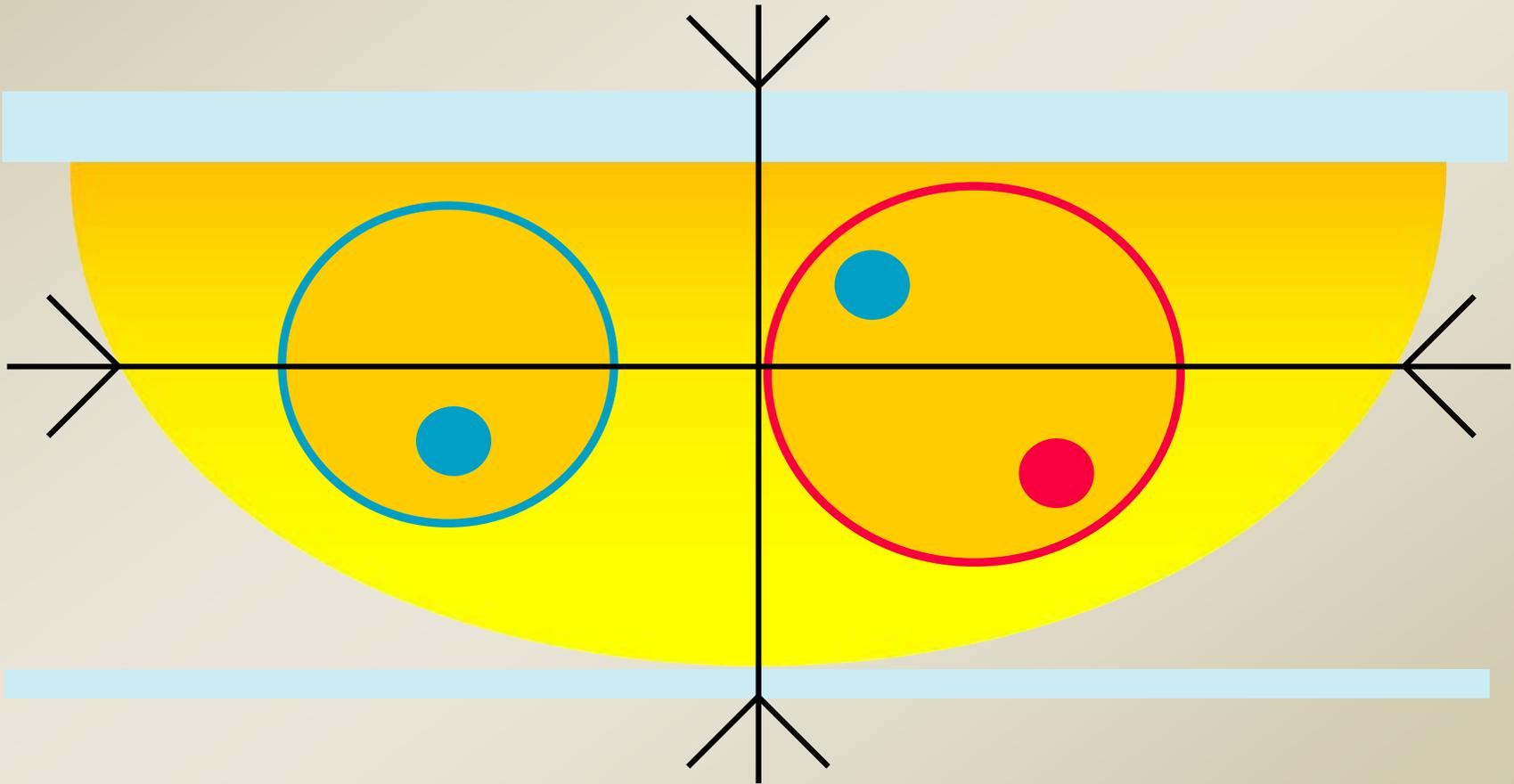


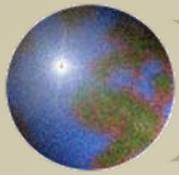
Tours/Poitiers : une  
comparaison  
synchronique.



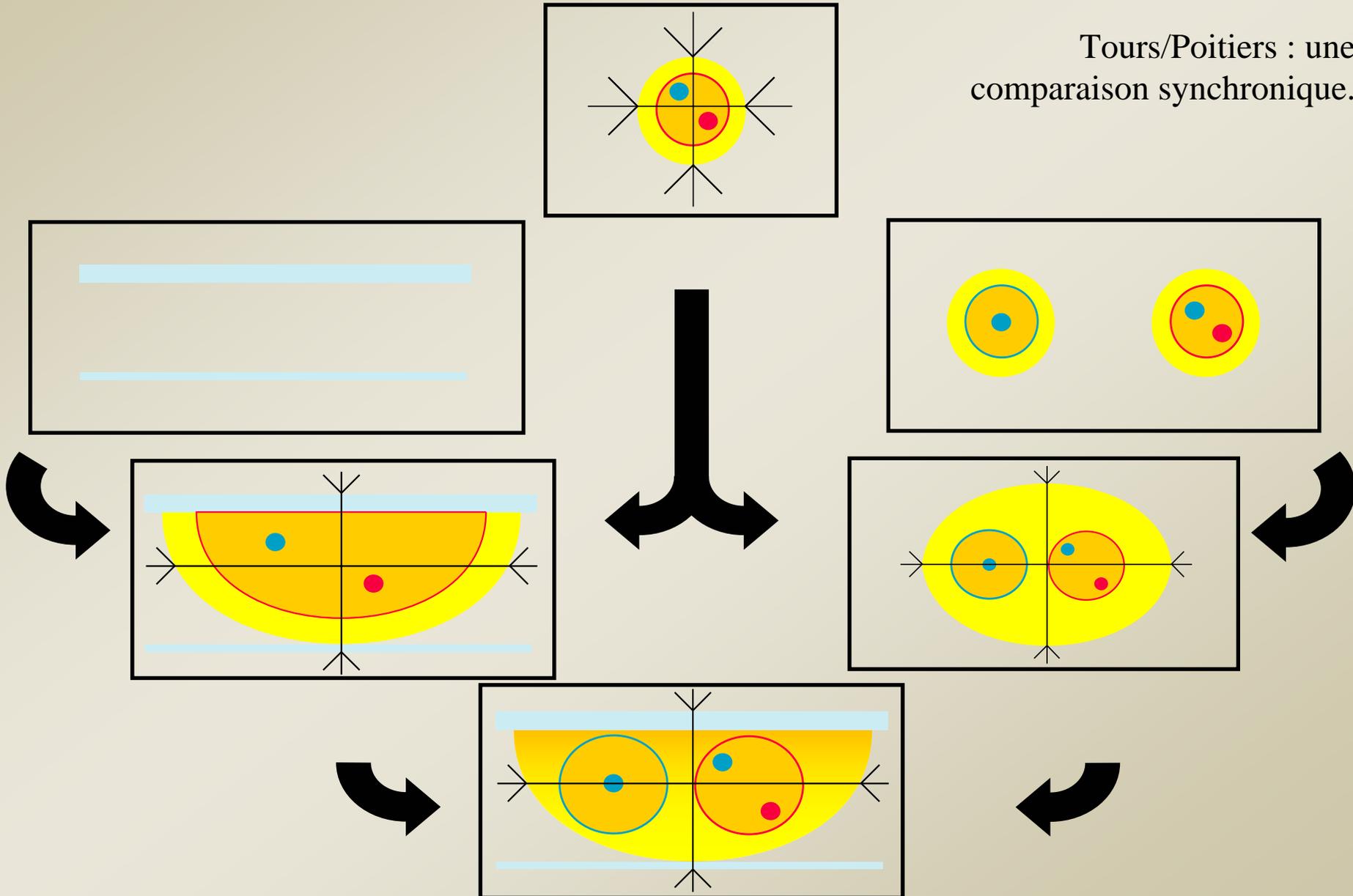


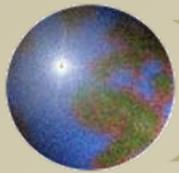
## Tours/Poitiers : une comparaison synchronique.





Tours/Poitiers : une comparaison synchronique.





2  
schématisations  
convergentes

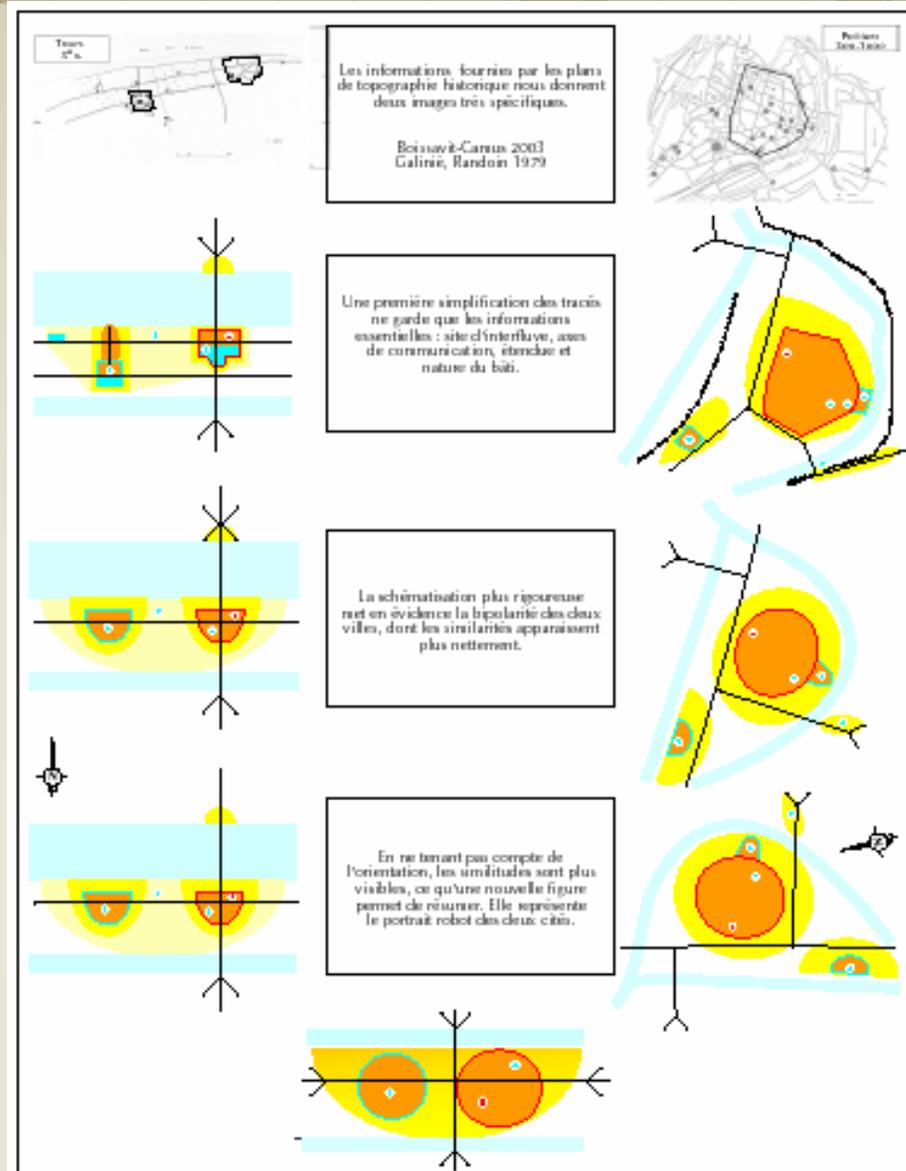
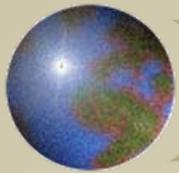


Fig. 4. Schématisation : comparaison de Tours et Poitiers au X<sup>e</sup> siècle (B. Boissavitt-Carnus, G. Djawent, B. Dufay, H. Galinié, C. Grataloup, C. Gailloteau, X. Rofier).



1 même chorotype

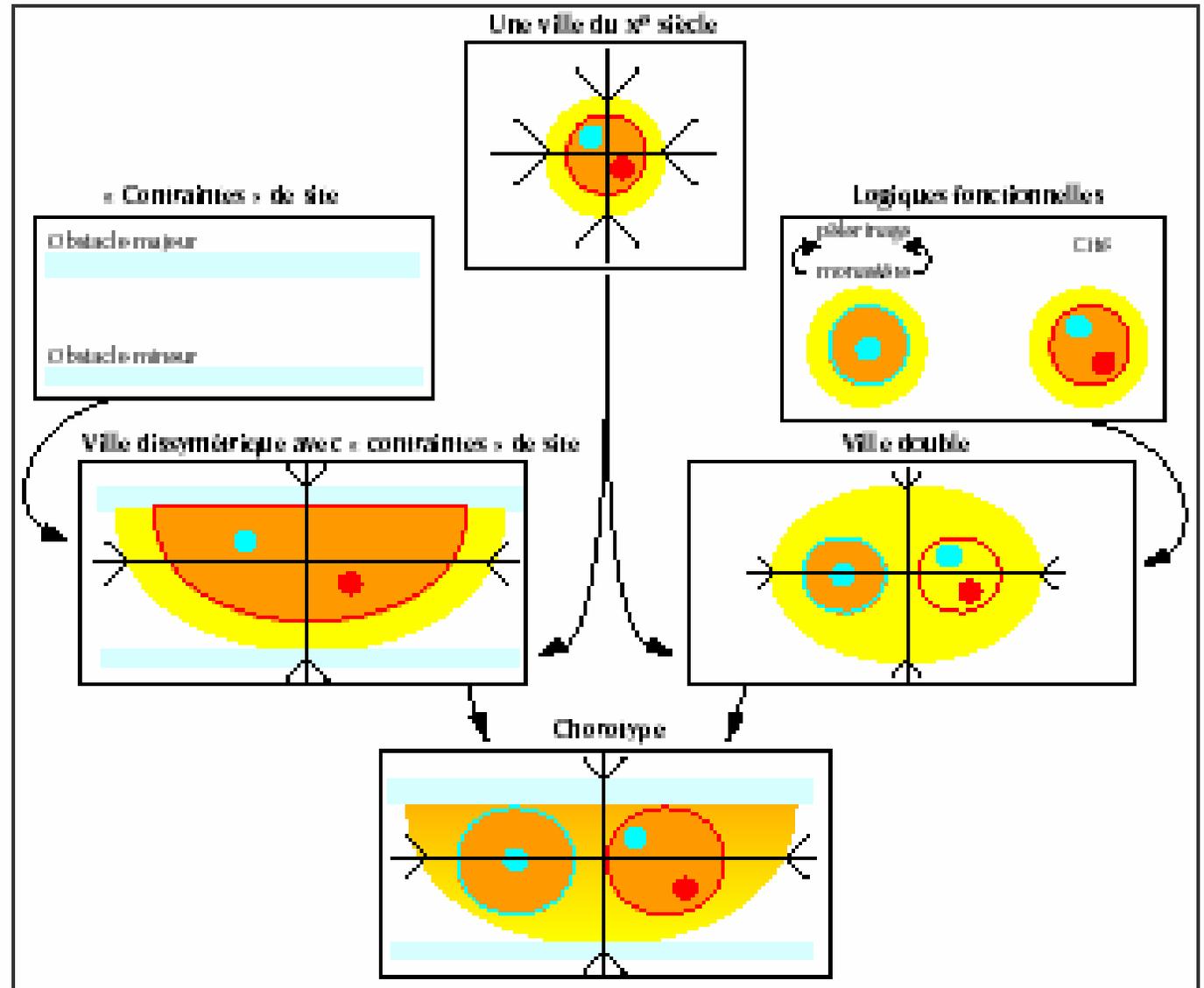
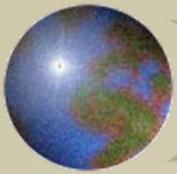


Fig. 5. Processus de modélisation (B. Boissier-Camus, G. Djament, B. Dufay, H. Galinié, C. Gratoloup, C. Guillaume, X. Rodier).



Conclusion: peut-on faire un chorotype  
d'une dynamique?

