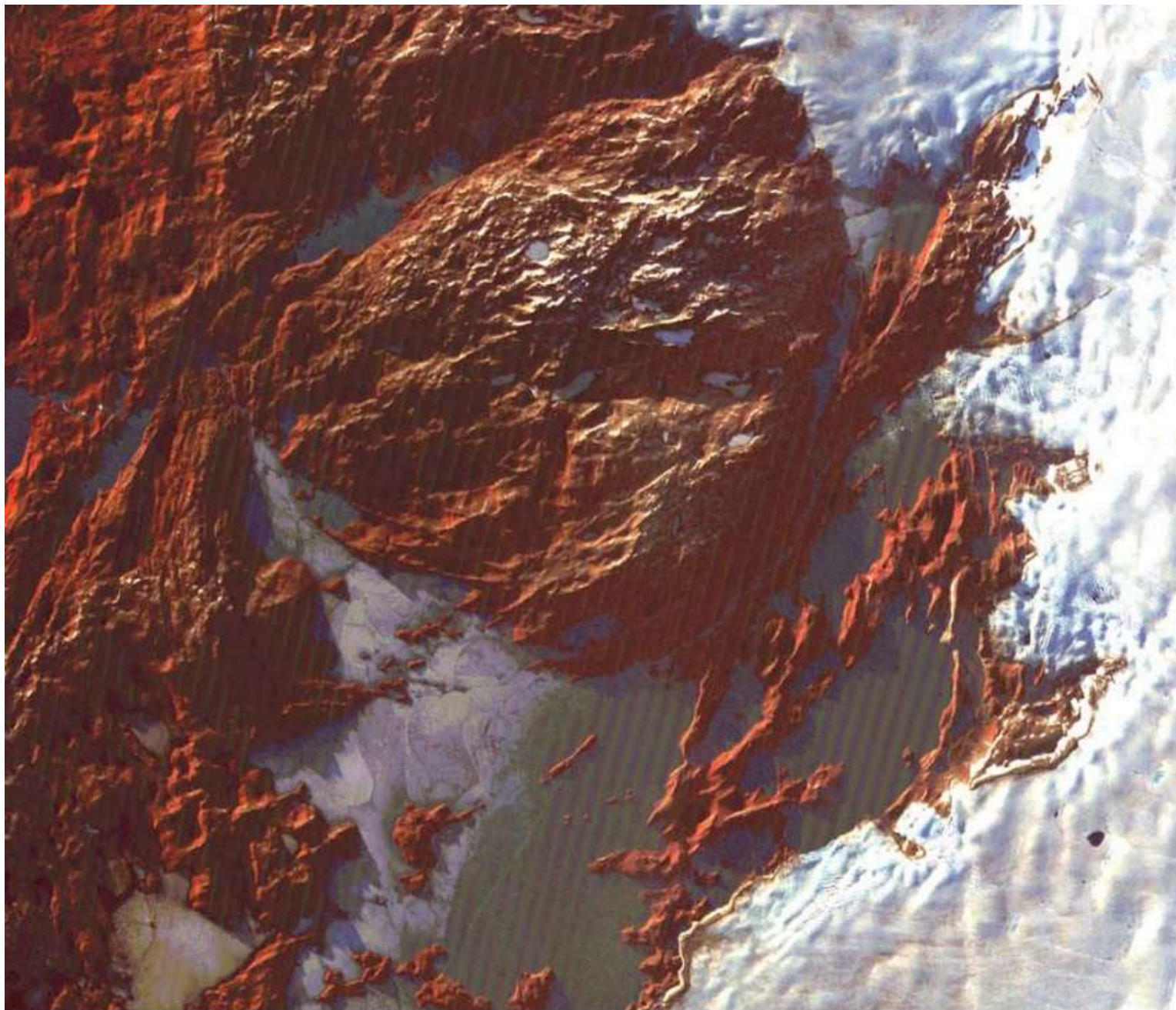


Burgess Shale: En busca de los orígenes de nuestros antepasados

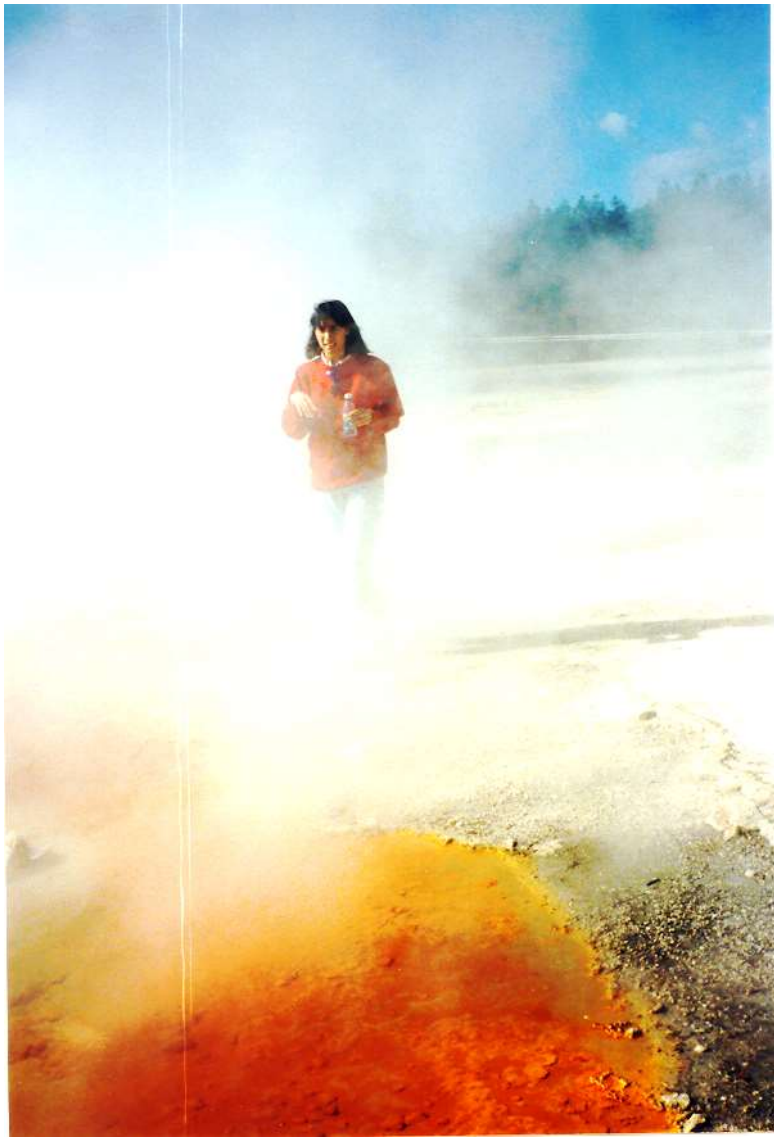
J. Guillermo Sánchez, enero 2012

ERA	M.A.	PERÍODO	ÉPOCA	Milones de años	Período		Era
CENOZOICA	0.01	CUATERNARIO	HOLOCENA	2	Cuaternario		Cenozoica
	2		PLEISTOCENA	65	Terciario		
	7	TERCIARIO	PLIOCENO	136	Cretácico		Mesozoica
	26		MIOCENO	193	Jurásico		
	38		OLIGOCENO	225	Triásico		
	54		EOCENO	280	Pérmico		
	65		PALEOCENO	345	Carbonífero		
MESOZOICA	136	CRETÁCICO		395	Devónico		PALEOZOICA
	196	JURÁSICO		435	Silúrico		
	225	TRIÁSICO		500	Ordovícico		
PALEOZOICA	280	PÉRMICO		570	Cámbrico		
	345	CARBONÍFERO					
	395	DEVÓNICO					
	440	SILÚRICO					
	500	ORDOVÍCICO					
	570	CÁMBRICO					
ARQUEOZOICA	800	PRECÁMBRICO					
	1600						
	2500						



ASTER/VNIR(25-Jun-2003)

METI/ERSDAC





Late Carboniferous 305 Mya



Eocene 45 Mya



Early Pleistocene 1.5 Mya

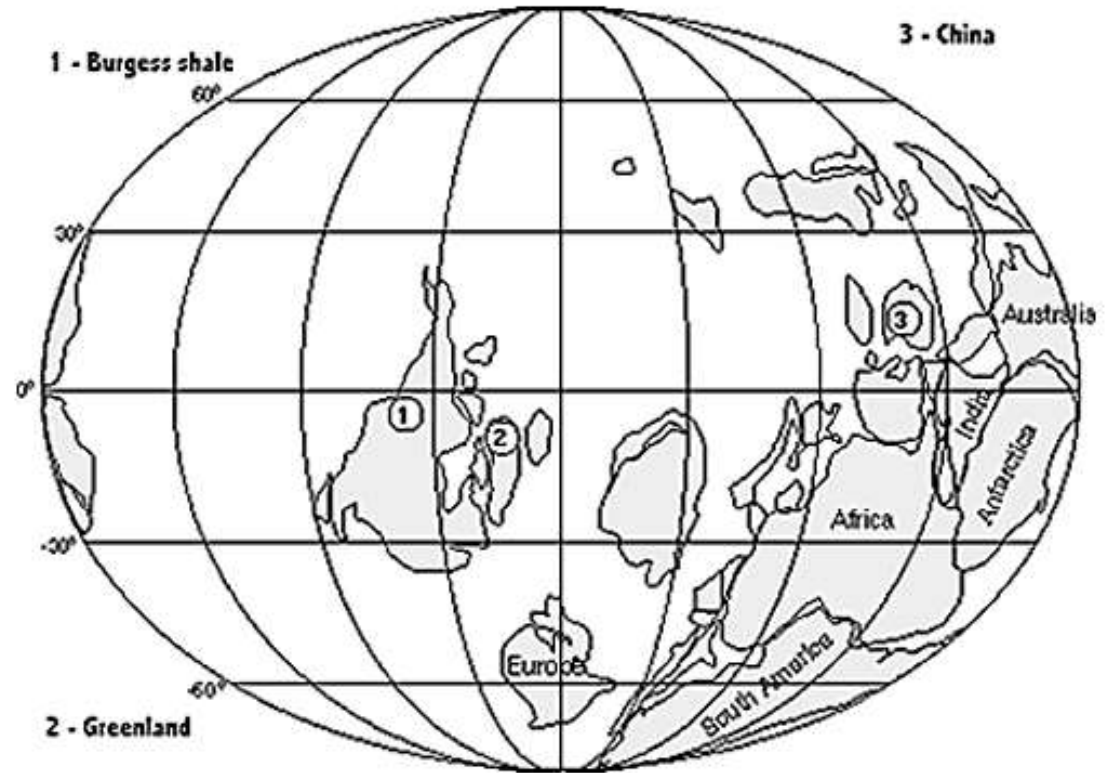
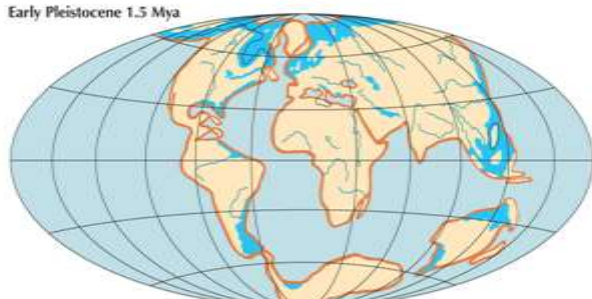


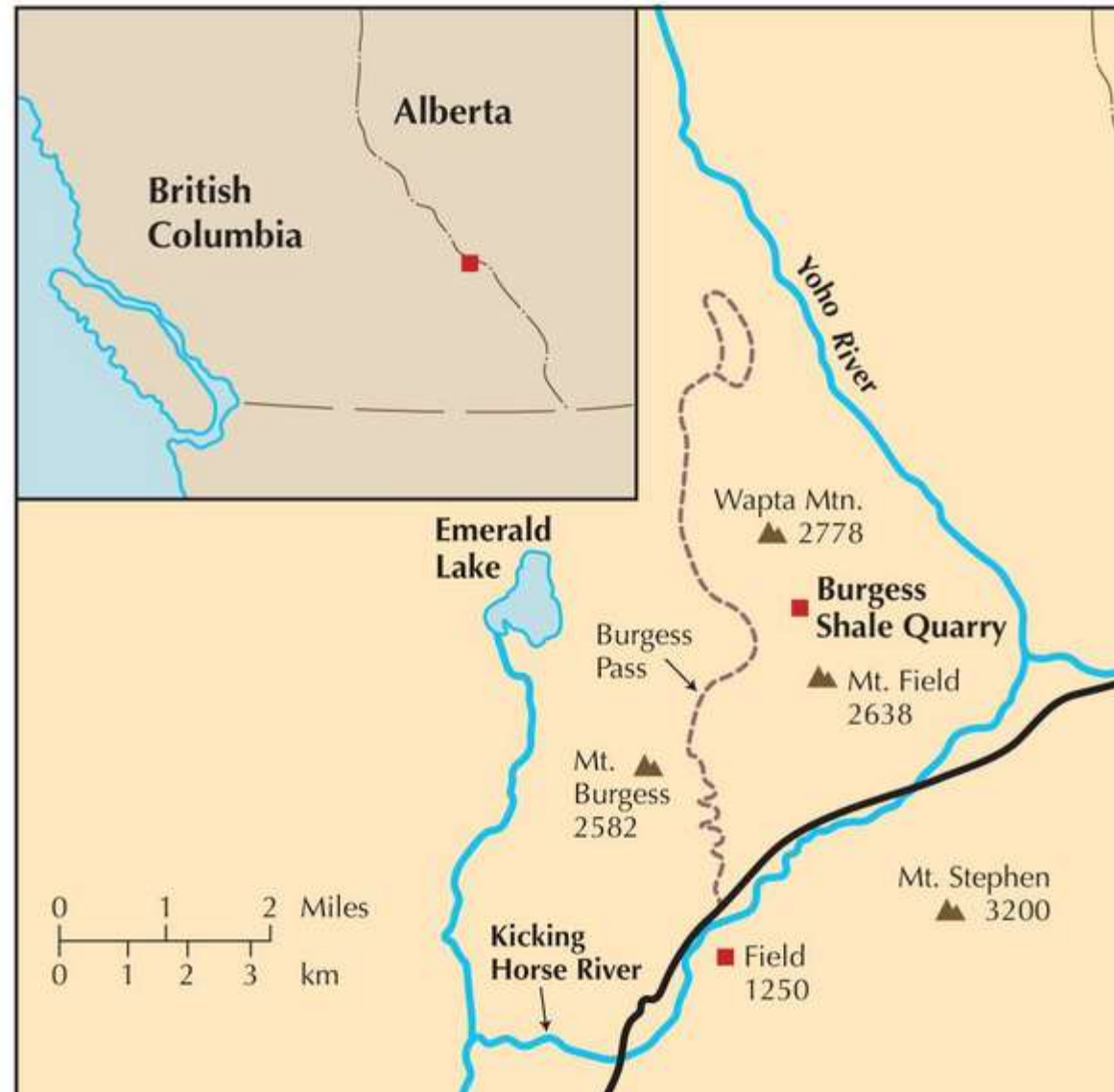
FIGURE 10.4. Alfred Wegener's reconstruction of the breakup and movement of the Earth's land masses (the darker blue areas represent shallow seas). Originally known as the theory of continental drift, plate tectonics has had major consequences for many scientific fields.

10.4, adapted from Wegener A., *Die Entstehung der Kontinente und Ozeane*, © 1915

Evolution © 2007 Cold Spring Harbor Laboratory Press









Burgess Shale

Schistes de Burgess

1909 — DISCOVERY!

While in Yoho conducting field work, Charles Walcott, renowned geologist and head of the Smithsonian Institution, found some unusual fossils in rock debris along the Burgess Highline Trail.

1910-1917 — SMITHSONIAN COLLECTION

The following summer, Walcott found the main source of the fossils in a rock layer high above the trail. He spent five field seasons quarrying, and collected 65,000 specimens.

Walcott's find yielded a startling variety of exquisitely preserved soft-bodied marine animals. The Burgess Shale remains the world's most important Cambrian-aged fossil site, and continues to play a pivotal role in our understanding of the emergence of early animal life.

1930 — HARVARD COLLECTION

A four man party from Harvard University, led by Percy Raymond, spent two weeks at the site, working Walcott's quarry and opening a second quarry twenty metres above.

1909 — DÉCOUVERTE!

Alors qu'il effectuait des travaux sur le terrain dans le parc Yoho, Charles Walcott, géologue de renom et directeur du Smithsonian Institution, trouva des fossiles inhabituels dans des débris rocheux le long du sentier Burgess Highline.

1910-1917 — COLLECTION SMITHSONIAN

L'été suivant, Walcott trouva la source principale des fossiles dans une couche rocheuse loin au-dessus du sentier. Il passa cinq campagnes sur le terrain à explorer la roche et préleva 65 000 spécimens.

La découverte de Walcott comprenait une étonnante variété d'organismes marins à corps mou, extrêmement bien conservés. Les schistes de Burgess constituent encore de nos jours le plus important site fossilifère de la période cambrienne, et joue encore aujourd'hui un rôle fondamental dans notre compréhension de l'émergence des premières formes de vie.

1930 — COLLECTION HARVARD

Une équipe de quatre hommes de l'Université Harvard, dirigée par Percy Raymond, passa deux semaines sur le site; ils travaillèrent dans le site fossilifère de Walcott et ouvrirent un second site vingt mètres plus haut.







BURGESS SHALE



SCHISTES A DE BUR

NOTICE OF CLOSED AREA

ZONE INT

The Burgess Shale Fossil Beds on Mount Wapta are a UNESCO World Heritage Site and receive special protection. This trail passes below the fossil beds, which are in a closed area.

To protect fossils from damage or theft, entry to the fossil beds is strictly prohibited.

For information about guided trips, contact the Field Visitor Center.



Les lits foss
de Burgess
site du pat
ils bénéfici
Ce sentier
qui se trou

**Afin de pr
dommage
fossilifère**

Pour obt
visites g
Centre d



Parks Canada
Parcs Canada

It is unlawful to remove fossils.

Il est illégal de recuei



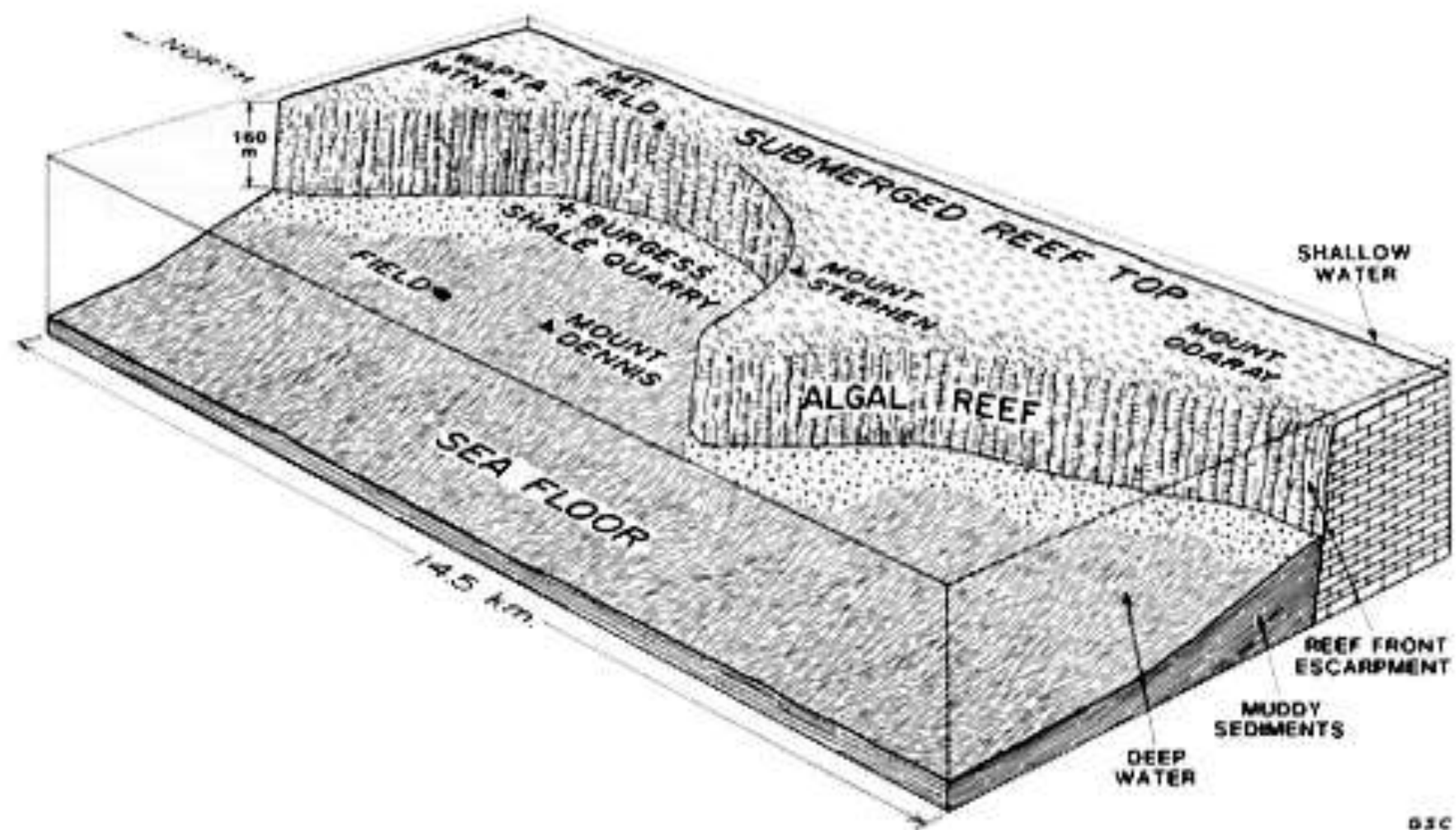












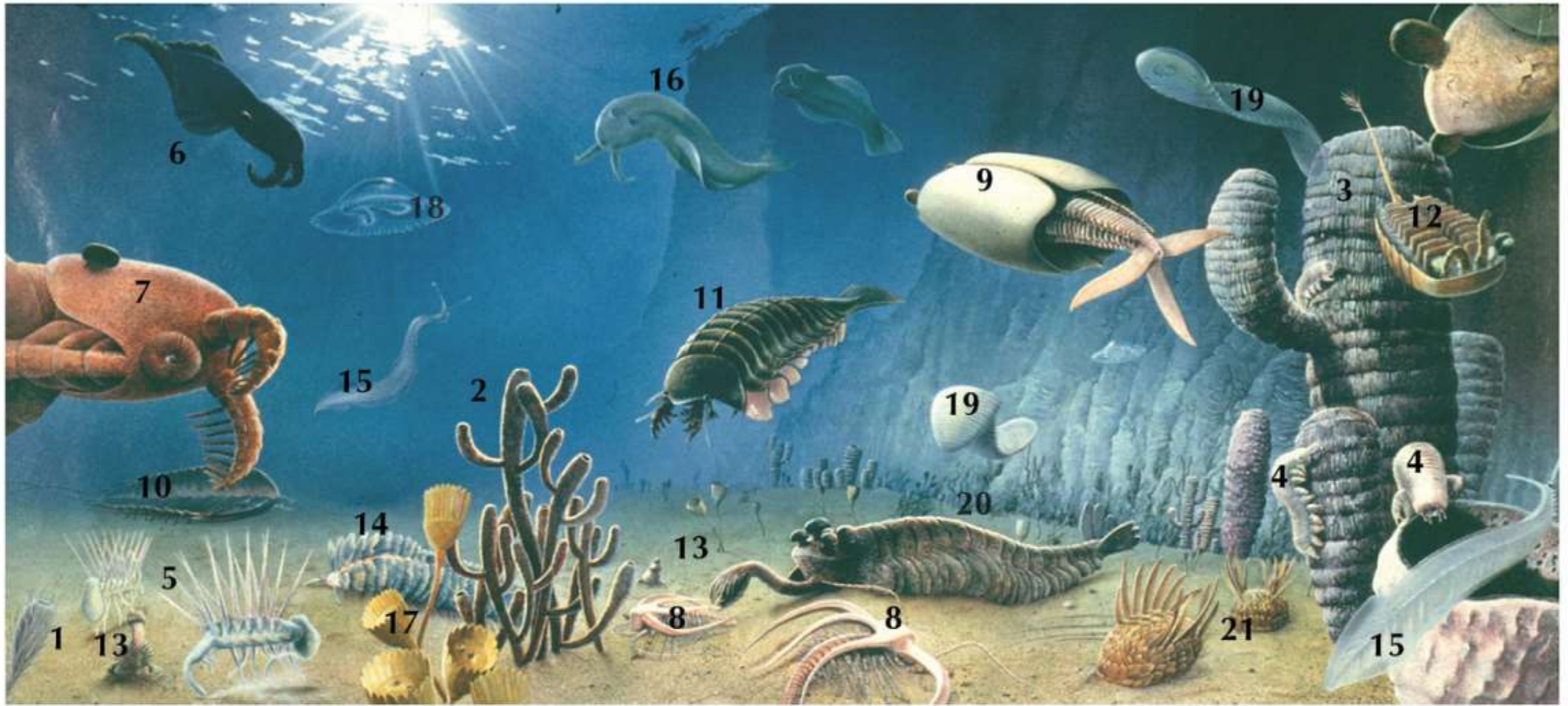
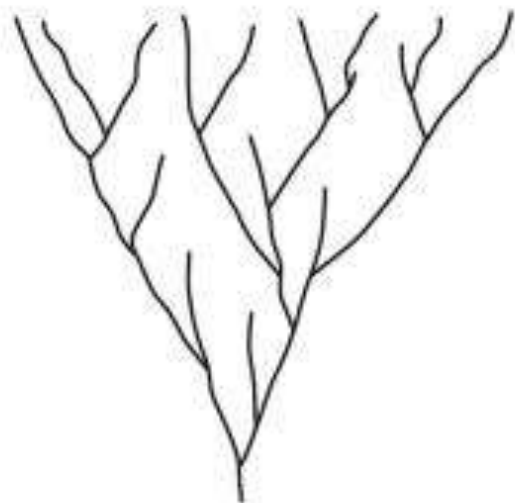
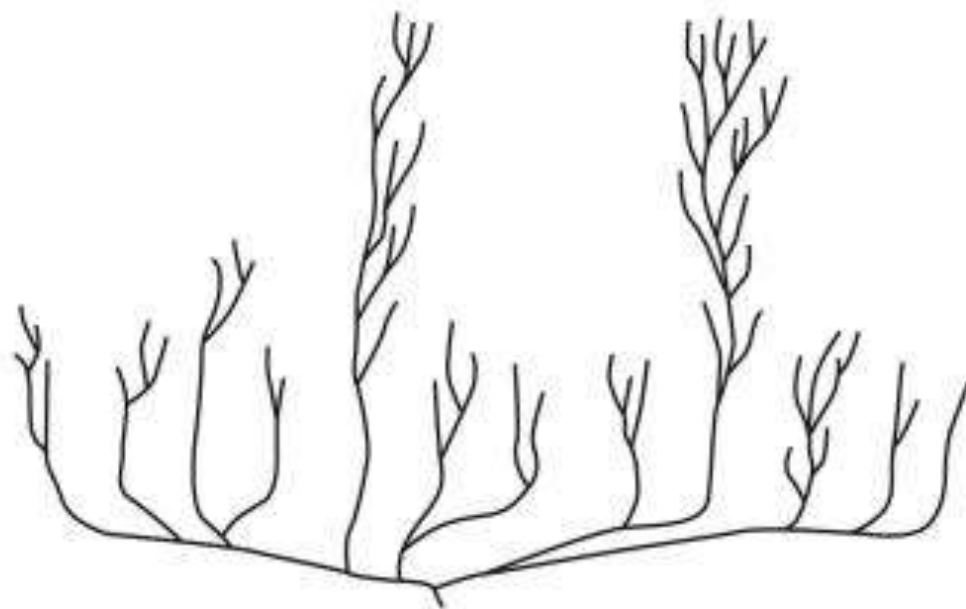


FIGURE 10.15. Restoration of the Burgess Shale fauna. Key to the animals is as follows. Sponges: *Pirania* (1), *Vauxia* (2), *Wapkia* (3). Lobopods: *Aysheaia* (4), *Hallucigenia* (5). Anomalocaridids: *Anomalocaris* (6), *Laggania* (7). Arthropods: *Marrella* (8), *Odaraia* (9), trilobite *Olenoides* (10), *Sanctacaris* (11), *Sarotrocercus* (12). Priapulid: *Ottoia* (13). Polychaete annelid: *Canadia* (14). Chordate: *Pikaia* (15). Animals of disputed or uncertain affinity: *Amiskwia* (16), *Dinomischus* (17), *El-*



Darwin vio con claridad el Principio de Regresión o selección natural.



Gould vio con claridad el Principio de Salto o Mutación y dejó claro el papel «diezmador» de la selección natural.









