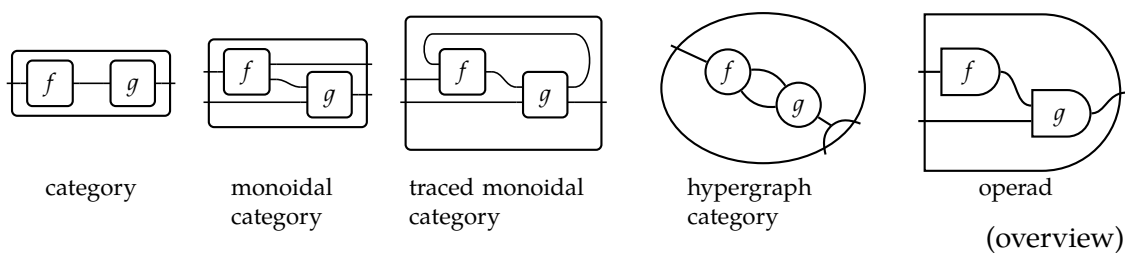


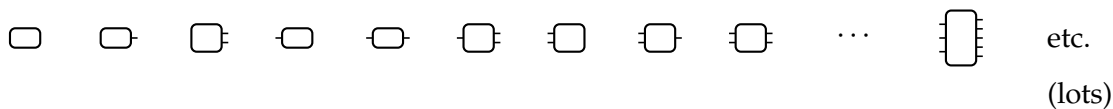
Collected Wiring diagrams

David I. Spivak

February 19, 2019

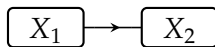


1 Boxes

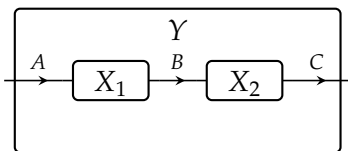


2 Simple Wiring Diagrams

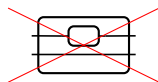




(no exterior)



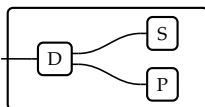
(simple 2)



(no passing wires)



(digging1)

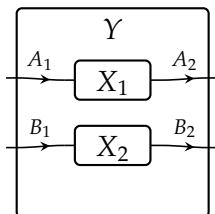


(digging2)

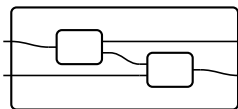
3 Oriented Wiring Diagrams

3.1 No Tracing

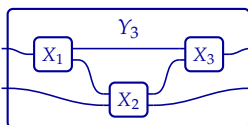
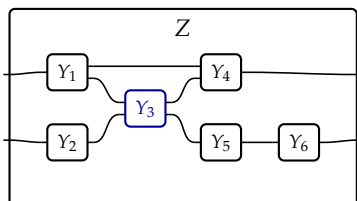
No splitting



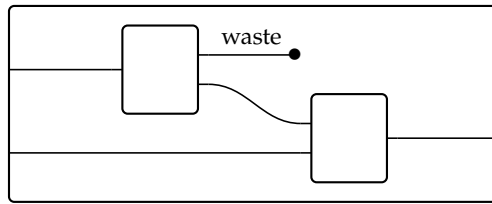
(parallel)



(junky)



(blue substitution)

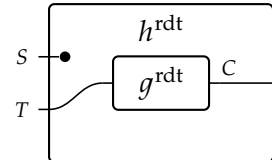
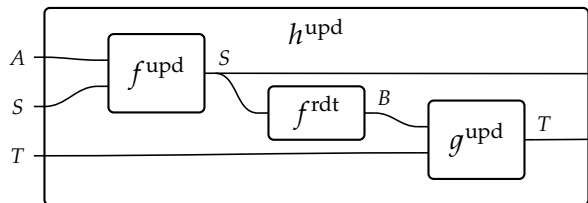


(terminate)

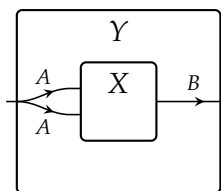
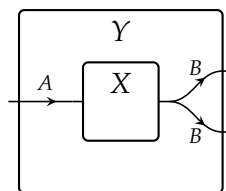
Interfaces	Arrangements	Nesting
		<p>(Getting a sense of how fractals are a special case?)</p>

(IAN: feedforward)

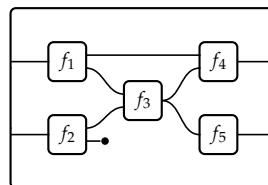
Splitting



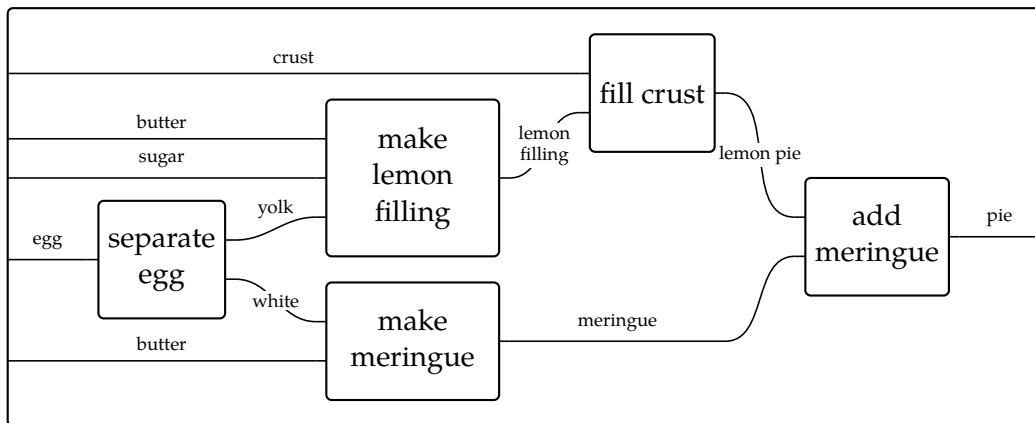
(upd and rdt)



(split left/right)



(split and terminate)



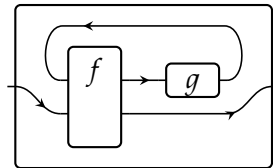
(meringue)

3.2 Tracing

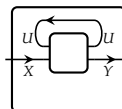
No splitting



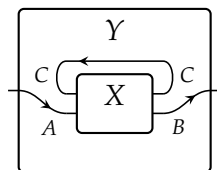
(minimal with feedback)



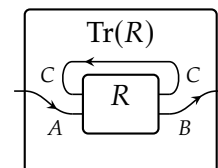
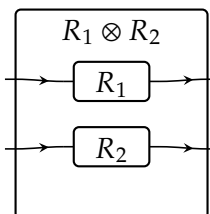
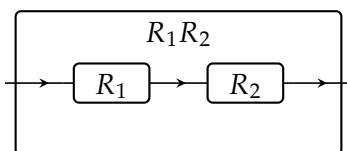
(f and g)



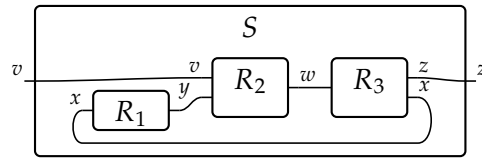
(little trace)



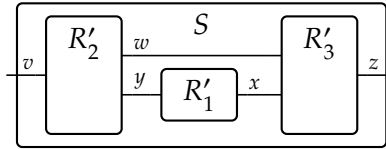
(bigger trace)



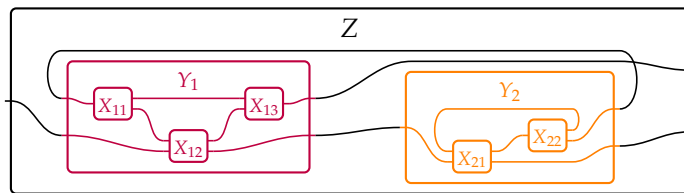
(series parallel)



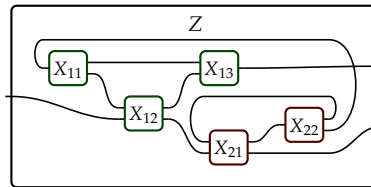
(Relations 1)



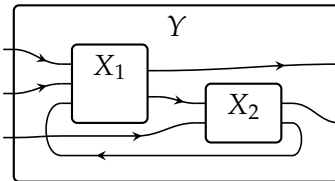
(relations 2)



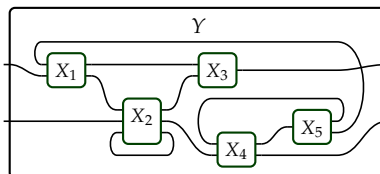
(SmallNestingPic)



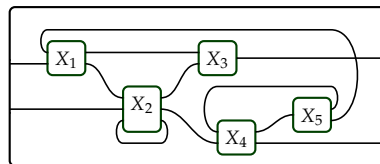
(Zcombined)



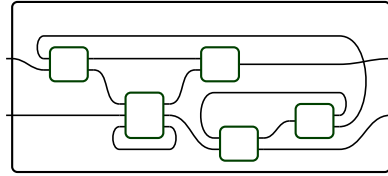
(two modules)



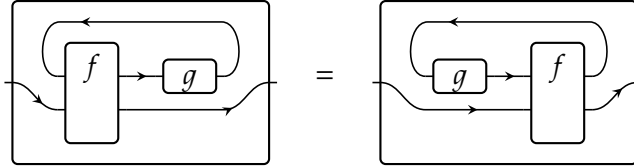
(pretty)



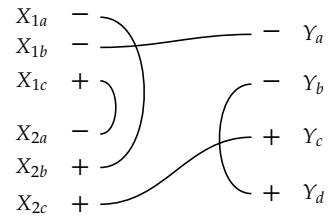
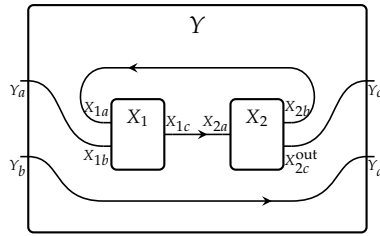
(prettier?)



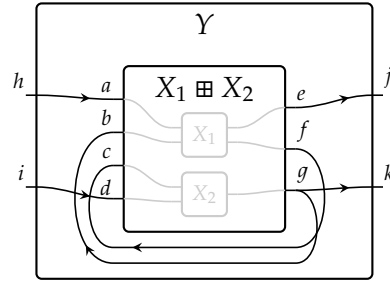
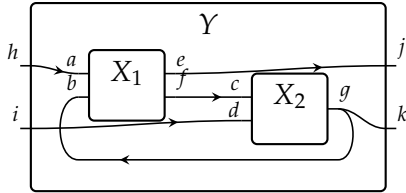
(pretty-no-num)



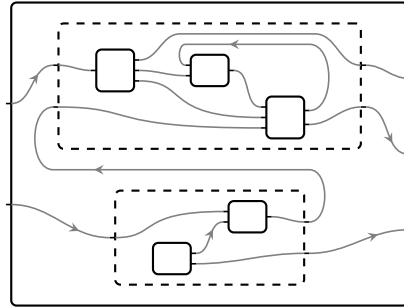
(cobordism equation)



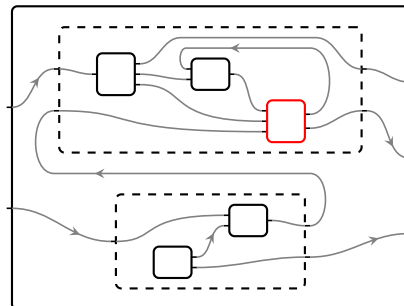
(cobordism)



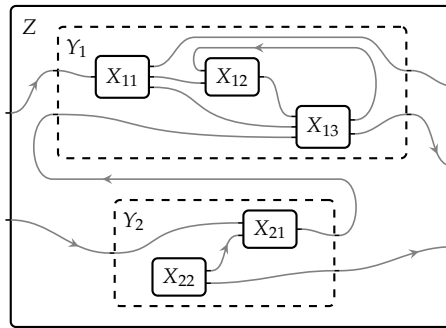
(tensor first)



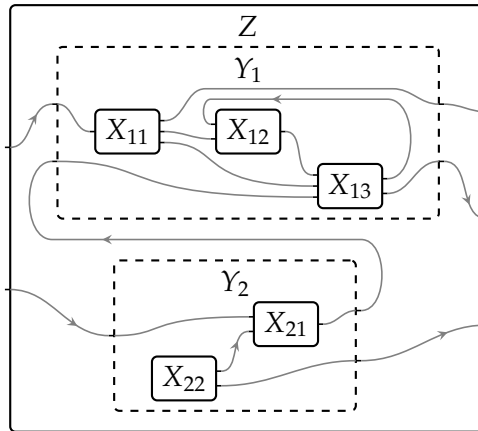
(empty nest)



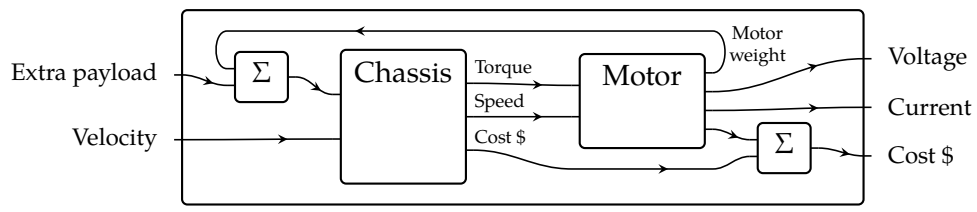
(empty nest red egg)



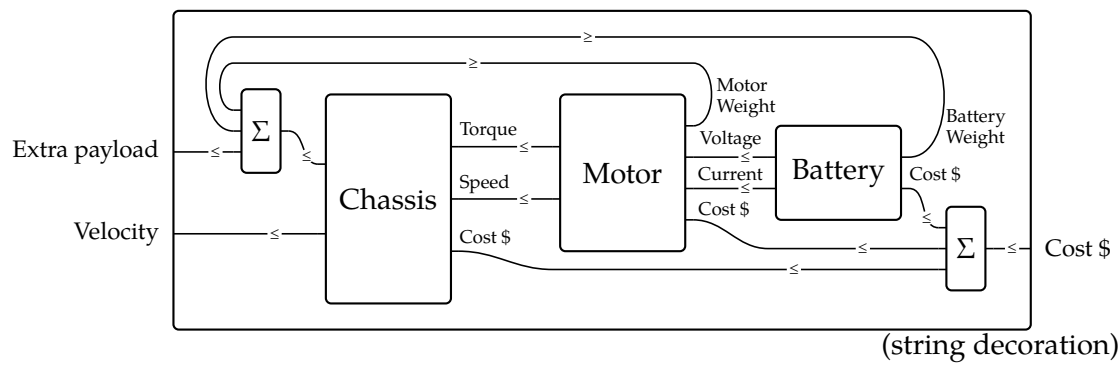
(two clusters 1)



(two clusters 2)

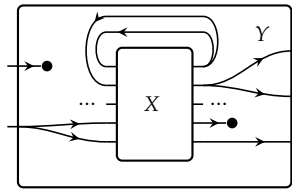


(Andrea)

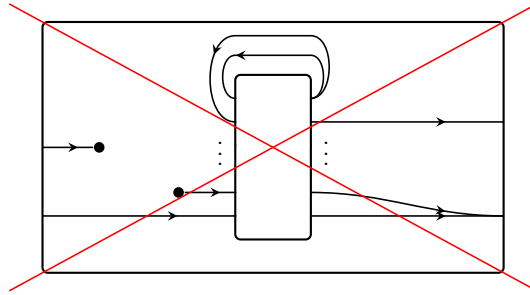


(string decoration)

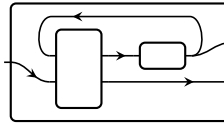
Diverging



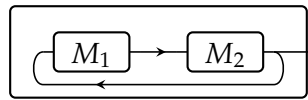
(kitchen sink)



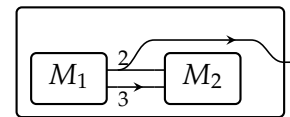
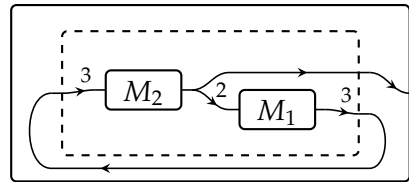
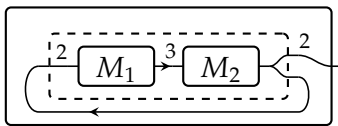
(kitchen sink 2)



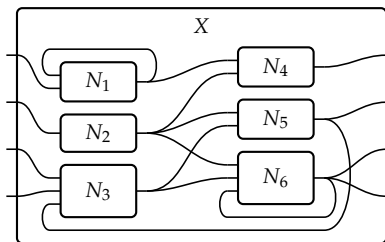
(simple 2)



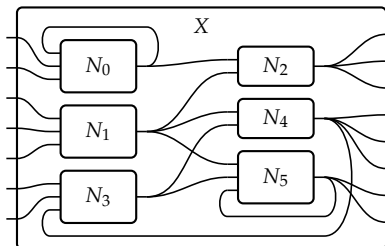
(split trace)



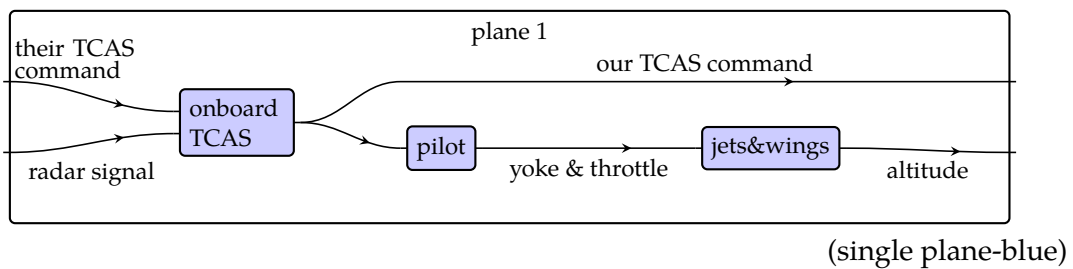
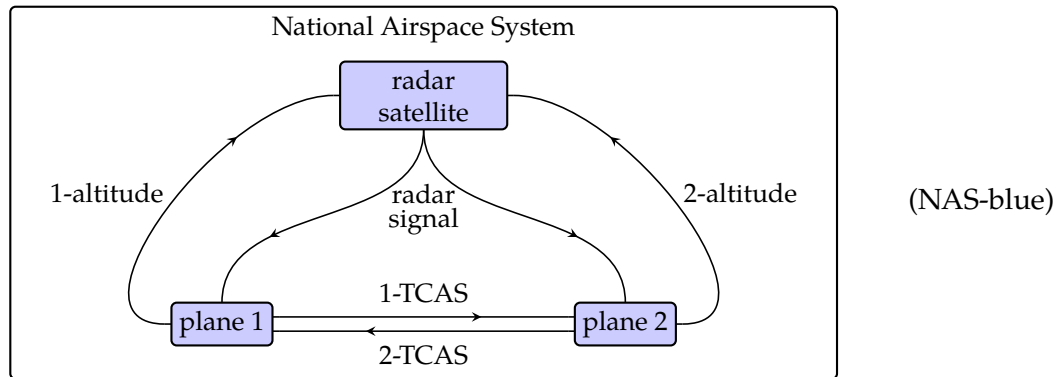
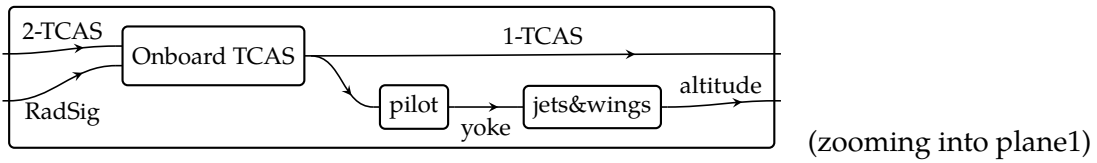
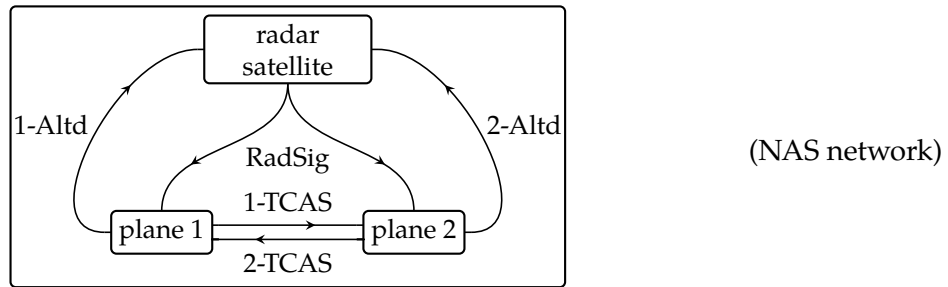
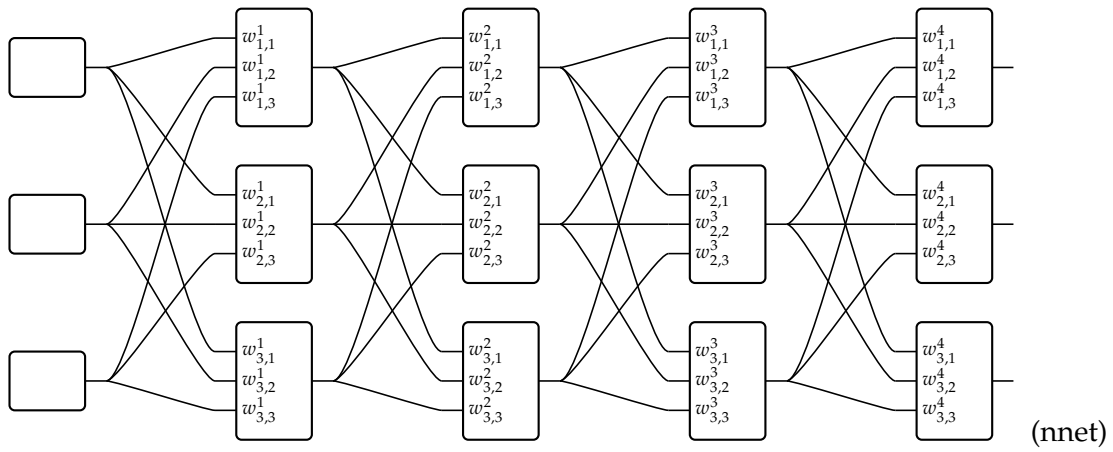
(numbers)

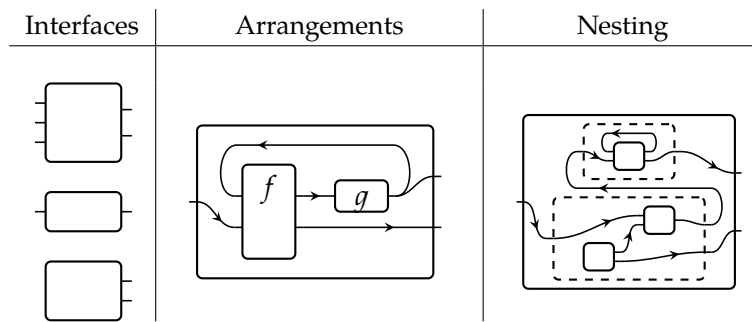


(neuron1)



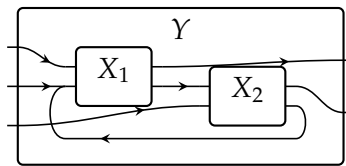
(neuron2)





(IAN feedback)

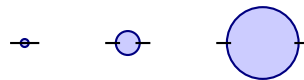
Converging



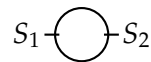
(converging)

4 Unoriented Wiring diagrams

4.1 Circles

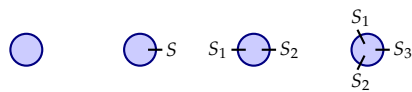


(pack2)



(white pack)

some typed finite sets shown with labels

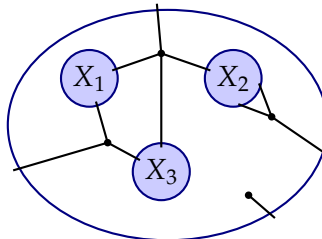


some typed finite sets shown without labels



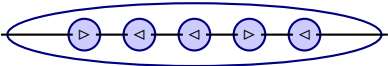
(labels?)

4.2 Functional cospans

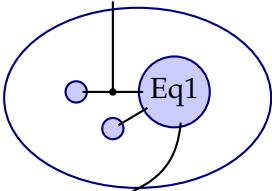


(functional)

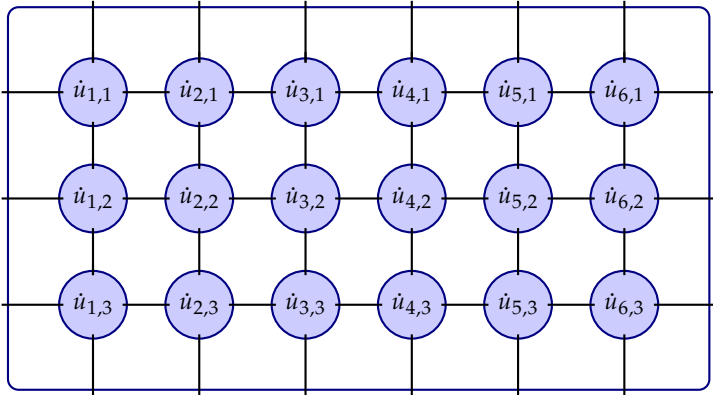
4.3 Arbitrary diagrams



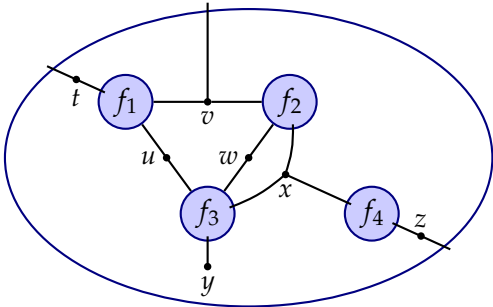
(cartesian operad for groups)



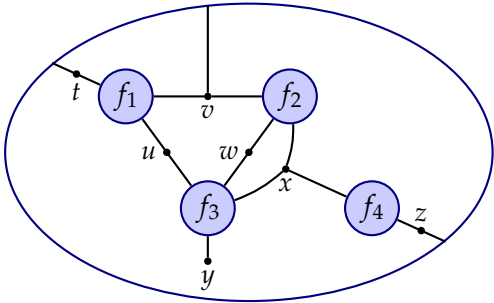
(sizes?)



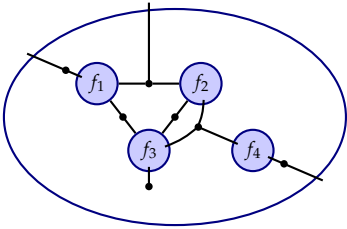
(grid)



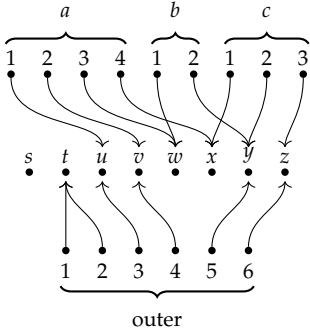
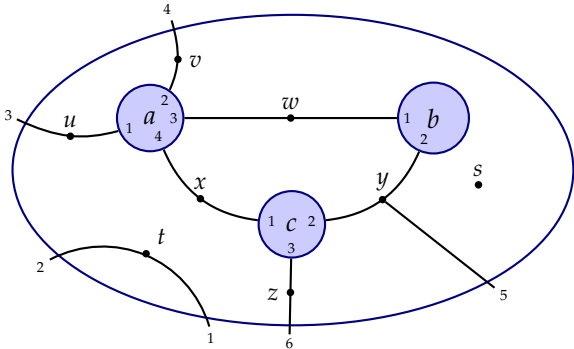
(four packs)



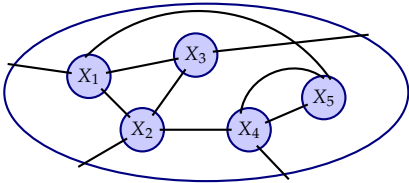
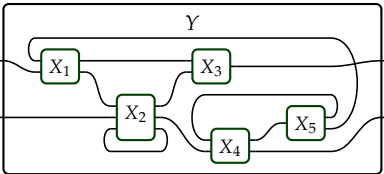
(no penetration)



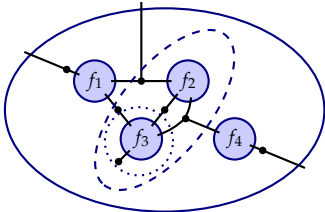
(beamer, no labels)



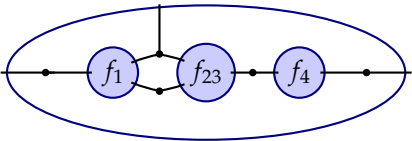
(cospan)



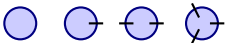
(side by side)



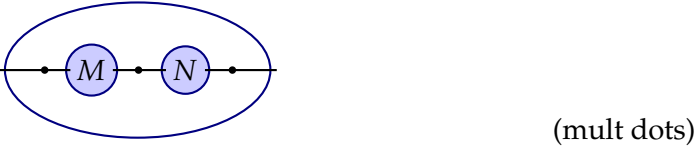
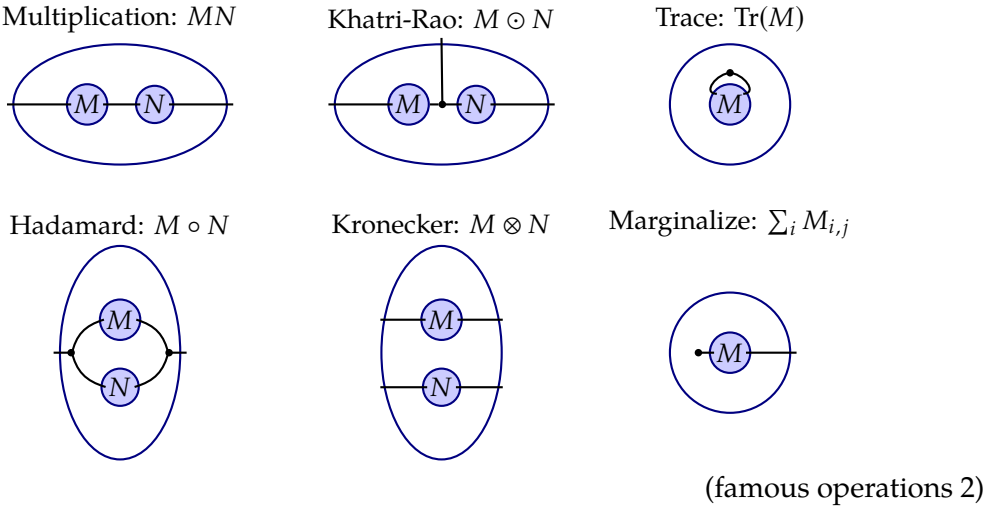
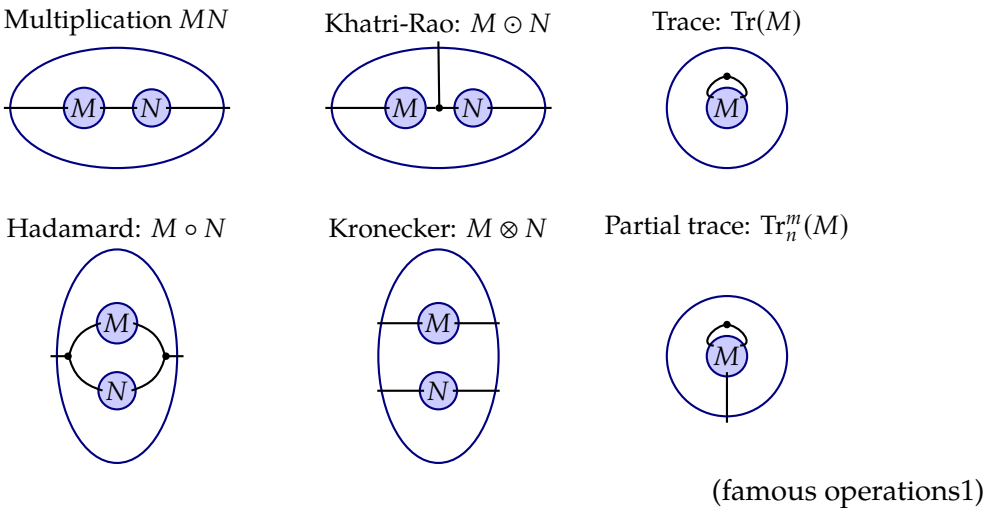
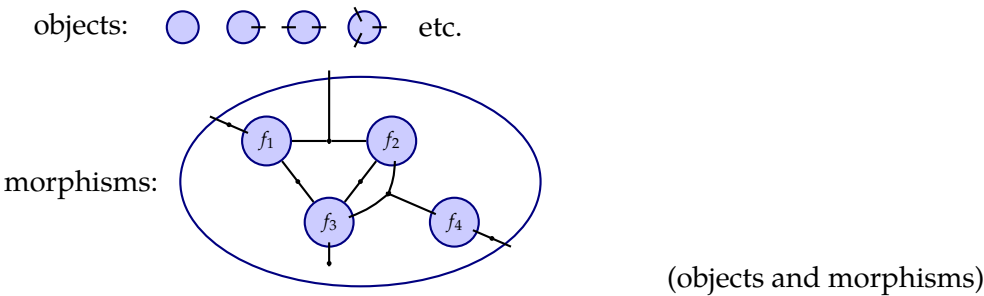
(clustering)

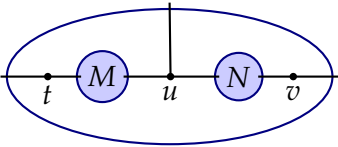


(post-clustering)

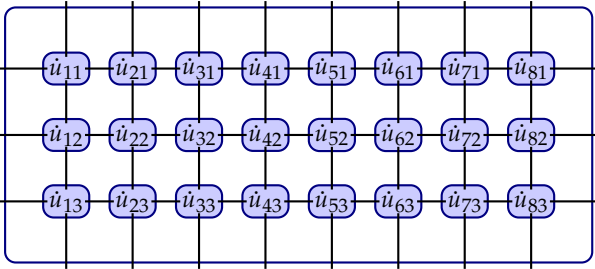


(interfaces)

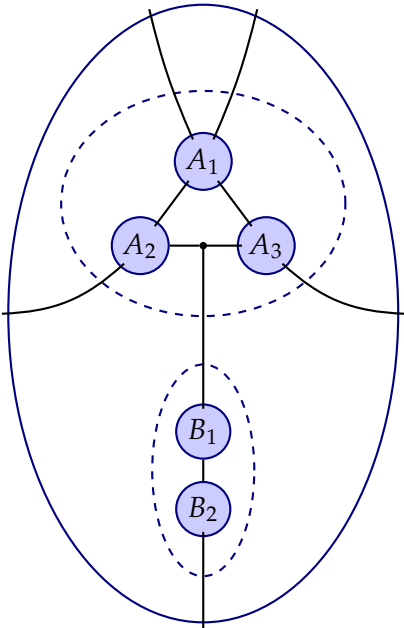




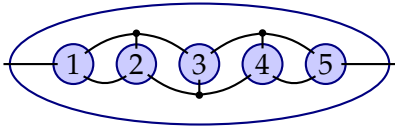
(KR dots)



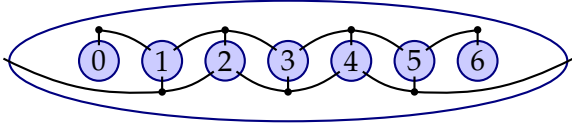
(grid 2)



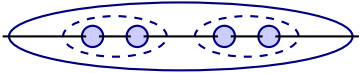
(unoriented nesting)



(reaction-diffusion)



(reaction-diffusion2)



(one line clustering)