

## Page Four – Equilibrium – NOT

by Anne Emerson

We are still working on explaining economic concepts for the general reader. We are still working on Annie's choice for the most important concept in mainstream economic modeling – equilibrium. By now, the general reader may understand that it is challenging to explain economic modeling in one page, or even in four.

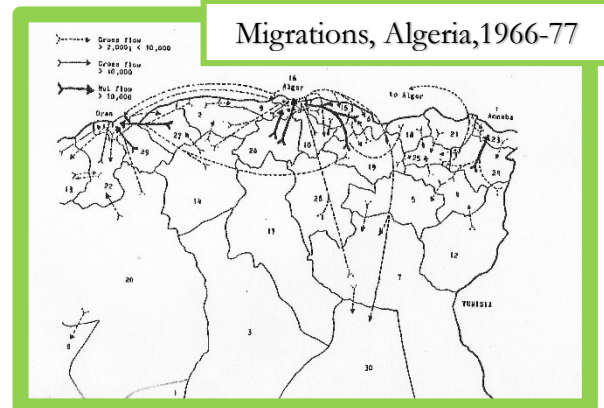
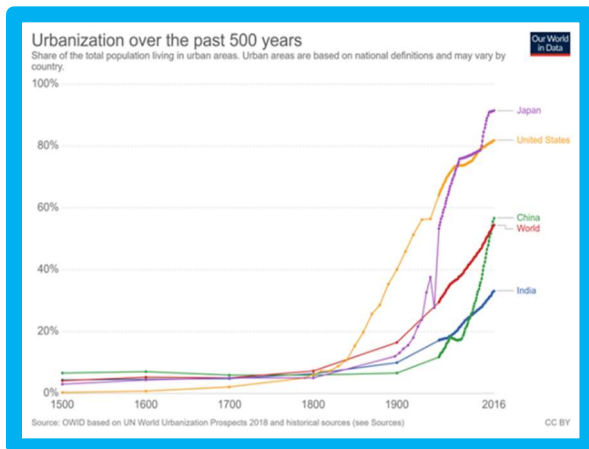


Let us plough ahead anyway. Remember, equilibrium is “no tendency to change,” or that point at which a system, including a system of things that move, tends to settle. “Dynamic equilibrium” is that property of a changing system that maintains a big-picture appearance of no change, or stability. In earlier pages of this discussion, we represented dynamic equilibrium with reference to a fountain, in which the water moves but the outline of the fountain maintains its shape. So, here is the fountain picture again. (If you are interested – and even if you are not – this fountain may be found in the same Botanic Garden in Cambridge, England where one may also find a genetic

descendant of the famous apple tree under which Sir Isaac Newton sat, when he intuited the existence of something we now call the force of gravity. (If I remember right; but don't quote me on that!)

We move on to ponder one of the major challenges of our times – migration! In the context of equilibrium modeling, we might ask, why do people move? Some people, of course, move because where they live has become unlivable – war, floods, gangs, vindictive governments, etc. But we are talking about economic models here, not about human misery. And, in economic models, people move for economic reasons – to find a job, or to make more money (in the form of a higher salary or better benefits, for example).

So, one of the places where workers have liked to move, all over the world, until very recently, is into the “big city.” Here are two diagrams that illustrate patterns of migration into and around big cities; one diagram



covers eleven years (green border); the other covers more than 200 years (blue border). I asked a group of creative artists whether they think these diagrams represent dynamic equilibrium. Almost all of them said “No,” and I suspect the one who said yes knew a little more about economics than the rest, and thought it was a trick question. He perhaps expected me to explain away the data!

And, I did not have to tell the group that the point at which urbanization appears to begin, and then to accelerate – around the year 1800 – coincides with the beginning of industrialization in England. Someone volunteered that thought! The diagram with the blue border – Urbanization, worldwide, from 1500 CE to 2016 CE – represents a dramatic change in the way we live, starting around 1800 CE. Oops! Page Four is full.