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George and Mill on Labor-Saving vs. Land-Saving Technology

14. What is the Effect of Improvements in the Arts? P&P 244-45

By Mason Gaffney

To save labor, and raise demand for land. George's specter of technological unemployment is much better thought out than the simple Luddite perception that "robot replaces man." George thought in terms of three factors: land, labor, and capital. If the landowner could use capital to displace labor from the land, there was no place for labor to go. George teaches us to take "*displace*" literally: labor is driven from its place, from its land base. Landowners could live without as many workers as before, and dump the rest on the streets. This has obviously happened in farming, for example, forcing displaced people off the farmland into cities.

Now it is happening in cities, on urban land. On industrial land, many blue collars are displaced by robots, etc. White and pink collars are being displaced by computers, which drive them out of office and retail space. Where shall they go when landowners displace them with machines? George, by focusing on the capture of land by capital, gives more substance to this question than most techno-pessimists do.

Optimists say that new machines create new jobs, too, but in times like these they get awfully vague about specifics. Where, George would say, are these jobs? On whose land? When? Techno-optimists need to answer that question, with specifics. George is holding their feet to the fire. The unemployed can't wait.

Mill, actually, had faced this question head on, and answered it better than most modern writers. Mill points out that there are also land-saving arts. Anything that increases yields per acre (the average product of land) is land-saving. George gives one such example, p. 241, "thousands of workers to the acre, working tier on tier," but he attributes that entirely to increased population. Credit is due rather to the arts of architecture, construction, planning, and engineering that crafted the elevators, ventilators, pumps, central heating, load-bearing supports, plumbing and sanitation, etc.

George unconsciously gives another example, p. 243, in writing of spaceship earth and its hatches. The arts of mining let mineral energy substitute for animal energy, thus releasing the pastureland once used for draft horses. That was one-third of the land used in farming, thus allowing a 50% increase in land growing food for humans. In addition, tractors can get into wet fields earlier in the spring than horses could; they can pull plows through claypans too tough for horses to handle; and otherwise increase yields per acre.

One point George overlooked, in his doom scenario, was his own influence, and that of people like him. The policies of George himself, applied to finance irrigation in California, are responsible for much of the increased yields that occur when dryland farming gives way to irrigated farming. The high yields of California farms have made fruits and vegetables so cheap in the East as to have taken much eastern land out of horticulture. California cotton has released

much eastern land for other uses. All this production comes from what was all desert and swamp before irrigation and drainage changed it.

As an exercise, think of some more land-saving arts. Remember that George includes government, police, manners, and morals among the arts.

George's model and foil, J.S. Mill, thought of a few, too. Mill's *Principles* has a chapter on "Influence of the Progress of Industry and Population on Rents, Profits, and Wages," in Article 4 of which Mill stresses that progress may be land-saving, not just land-using. George doesn't refer to this, even though he was directly juxtaposing his views with those of Mill. Mill, remember, said that population lowers wages, while progress in the arts is all that may offset this, and may even raise wages.

Mill's treatment is, to be sure, vexingly roundabout and obscure, because he runs all his effects through the cost of food, and its presumed effect on wage rates. (The idea is that if food costs less, the "working classes" will accept lower wages). Still, George would have strengthened his work by giving some heed to Mill's argument. When labor is dear, capital goes into saving labor; when land is dear, capital goes into saving land, and developing new lands. Thus the system is more self-equilibrating than George feared in this apocalyptic chapter. It is ironic that George, who expresses repeatedly his faith in the market's equilibrating powers, should overlook this kind of equilibration.

He might have weakened its immediate impact, because a doom forecast is great for grabbing attention and selling books. The fear of technological unemployment is ever present—more so today than ever. He would have silenced some of his later critics, however, who have seized upon his doom forecast and used it to discredit him. Up until about 1975 they could argue that real wages in the United States had been rising; since 1975 they have been falling, however, and George's forecast looks more relevant now than ever.