THE SAVAGE WARS OF PEACE. 15.7.95

Part 1: A Mystery.

1. The Malthusian trap.

This describes the 'normal tendency' of human civilizations. Looking in the long term, with the movement from hunter-gatherer, through tribal to sedentary populations, there was a natural tendency to hit an upper limit, the 'limits to growth'. Most civilizations, whether China in the East or Europe in the West, had hit such a glass ceiling by the sixteenth century. The 'general crisis' of the seventeenth century is a recognition of this in the west, and Needham/Elvin's work in the East.

The precise dynamics of why there was a limit within agrarian civilizations was outlined by the classical economists, Smith, Malthus and Ricardo. In some ways, the Malthusian account is the clearest, so I outline this.

The Malthusian trap outlined. The various in-built mechanisms mean that as advances are made in one way, negative feed-backs occur in others. It seems impssible to escape. Yet we know that the escape occurred...

2. Two escapes.

The best place to start is in England which, it is known, was the first to escape into a new order through industrialization. What evidence is there of its control of the two Malthusian tendencies - towards rising mortality, and rising fertility? (This might be the place to put Malthus' own growing realization that an escape was being made.) Recent work by the Cambridge Group and others have confirmed his guesses. There was a break-through into a homeostatic order. This change occurred early, probably by at least the sixteenth century or earlier in England.

A second case of the establishment of a low-pressure regime was Japan. In some ways this case was even more dramatic, for it established even lower mortality and fertility rates. The evidence for this has only recently been established.

Put together, these two cases make us re-assess demographic transition theory. This re-think makes it possible to look at the relations between economic growth and demography in a new way. The early hunches that the miraculous break-through into industrial capitalism was somehow linked to a particular demography is confirmed. A brief sketch of the connections and balances is given.

3. Explaining the escapes.

We know that by the logic of the Malthusian argument, the escape was very difficult & almost all

civilizations had hit the buffers. How then did these two cases avoid them?

One way to approach this is to use the detective method of the examination of all possible explanations. This has been done extensively by historians over the last fifty years or more. Among the possible explanations that have been forward are the following: (follow McKeown & then look at later writers...)

- climate
- geography and quarantine
- change in viruses/bacteria
- medical techniques/knowledge concerning disease
- contraceptive technology
- nutrition and food
- sanitation
- housing, clothing
- infant feeding (breast/colostrum)

In each case, after a preliminary hopeful case, it is clear that very powerful objections can be brought forward which make each explanation **in itself** unconvincing. Thus a powerful case can be made to suggest that the change could not/should not have happened. Yet it did. So what can we do? The first thing is to heed Szreter's warning that McKeown has not looked at all of them with equal care. They will need further examination. Perhaps there is more in some of the above than at first appears.

A second technique is to ask what contemporaries thought was important - Malthus, Blane, Heberden et al. What they concentrated on.

A third technique is to use the comparative method - or the technique of the dog that did not bark in the night/ the missing dumb bell. By comparing England and Japan both to each other, but particularly to the 'normal' case, we can see some of the most important things, which are absences - e.g. absence of animals in Japan, absence of war in both. In some way section 2, that is on war and famine & nature, is mainly about such absences, and might almost be called 'absences' as a general heading.

A fourth technique is to use the technique of the search for minute details. Much of Holmes is about the search for tiny clues & on these tiny clues - the tannin content of tea, the use of mosquito nets in Japan, the absence of flies in Japan, the wearing of shoes in both, will much of importance be found.

A fifth technique is to use the method of analytic reasoning when applied to long chains of causation. The theory of causal chains will need to be explained, and the ways in which Holmes makes deductions along these. This applies particularly in this case, where there are many unintended consequences etc. (see the story from Shank's Mare etc.)

Part 2: Significant absences.

4. The control of nature.

The first impressive feature of these two islands is the way in which, living on rocky islands, they subdued and used the natural forces within the ecology in order to make a living. The interesting thing of putting them alongside each other is to see how very different their solutions were. This was largely a function of the kind of islands they were & their different climates, histories and traditions.

The English solution was basically a pastoral existence. This gave the country a situation of maximum wealth with minimum effort. A description of English animals, use of natural resources of water and wind, and use of human labour can be given to show how nature had been domesticated and brought under control to produce its surpluses.

The Japanese solution was basically an intensive cropping existence, round rice and many other crops, but to the exclusion of animals. This gave the maximum of yield from the minimum of land and other resources, but with huge human effort - based on superb organization. It was an entirely different solution to that of England. Yet both were based on very considerable care and saw the development of the most efficient agricultural systems of the two respective types that the world had ever known - each undergoing a long and productive agricultural revolution from the later middle ages, or before. Thus by the sixteenth century, at the latest, nature was controlled in both cases.

5. The control of war.

As destructive as nature, was Malthus' first horseman, war. It is war which acts as the great positive check in most civilizations - and they build up over time. I outline the 'normal tendency' and the huge destruction of war in most civilizations, whether in Asia or Europe. But here is a case of the non-barking dog, for war was one of the great absences on Japan and England - both foreign invasion and serious civil war. The reasons for this are outlined - the effects were immense.

6. The control of famine.(1)

The second major Malthusian check was famine. An outline of the famines in major civilizations show how late it was until most civilizations managed to escape. Yet England escaped from famine from the fifteenth century, and Japan, with three notable exceptions, from the sixteenth. This is what happened, but why?

7. The control of famine.(2)

There are various theories to account for the presence or absence of famines in various countries. These are considered and I show how it was that these two countries, through a combination of

factors, managed to 'slip the shadow of famine' relatively early. This is an important absence. One of its most obvious correlates and indeed causes is nutrition, which also has a wider importance.

8. The control of food.

A famine-free country may still be badly fed. And good feeding has an important synergistic connection to both mortality and fertility. Since nutritional changes have also been suggested as a possible major cause of the shift in mortality rates in England in the eighteenth century, it is worth looking in some detail at what the English and Japanese ate over the centries. Here we come across one of the major consequences of that difference between a pastoral and arable country which we established above. The English were extremely well provided with proteins and calories, through good supplies of meat, milk products and good grains. Their main weakness was in vegetables. The Japanese were short on proteins and to a certain extent calories, but did well in ters of vitamins. But both countries had basically solved the problem of feeding their rising populations.

Part 3. Food and water-borne disease.

9. The control of water/food-borne disease.

This chapter shows that one of the most dramatic changes in England was the decline in dysentery, and the relatively low level of infant diseases. In Japan all the food/water-born diseases were early controlled. Given the growing problems caused by cities etc. This is amazing. How did it happen?

10. The excremental chain.

This chapter looks at the disposal of human excrement in England and Japan. In each a novel method was developed - entirely different because of the different need for night soil. But both effective in their ways.

11. Drink.

What people drank has been strangely neglected - in favour of food. But drink is equally, if not more, important in the spread of stomache diseases. In both cases the solution was to avoid water - in one case by drinking beer, and later tea. In Japan by drinking tea. Tea was a key the problem because it was boiled and because of its phenolics content.

12. Infant food.

The single most important determinant of mortality in most societies is the death rate of infants in their first year, and particularly in the first three months. This means that this should be examined with particular care. In view of the Fildes 'colostrum' theory, this has a particular relevance. To what extent can the nature of infant feeding, and in particular changes in infant feeding, solve the part of

our problem related to enteric diseases? A survey of breast-feeding suggests that England and Japan were indeed unsual and this situation had a good effect on mortality.

Part 4. Control of vector-borne disease.

13. Vector-borne diseases.

Here again there are some dramatic features. The disappearance of plague in England is important - but not special. Typhus is a problem, but contained, in England. Malaria is a minor problem and then controlled. The extraordinary thing is the complete absence of all three in Japan. This is enormously significant. How is this to be explained?

14. Hygiene.

A number of diseases, and not just vector-borne ones, are affected by hygiene. The history of washing and general bodily hygiene is thus important. In this respect the enormous care the Japanese took on bodily cleanliness is worth noting.

15. Clothing.

Clothing affects both specific insect vectors and more generally the ability of humans to resist disease. Again the English and the Japanese went to the opposite extremes, but both very effective techniques. The Japanese wore very little, though what they wore was very well designed. And it was made of healthy materials and well washed. The English were the reverse - the most luxuriously dressed civilization in the world (with the exception of the Dutch) - with good shoes etc. Changes in English clothing, from wool to cotton etc. probably an important change.

16. Housing.

It was one of the obsessions of C19 reformers that housing had a huge influence on health. Here again the English and Japanese solutions were at the opposite extremes, but both effective in their ways. The English went for the solid and durable house; the Japanese for the 'paper lantern'. Of the two, the Japanese was probably the healthier, though less comfortable. It provided, like Japanese clothing and food, very little foothold for disease.

17. Environs.

The environs of the house - street, markets, fields etc. were very important. Here both civilizations again developed something special, but again totally contrasted. The Japanese cleanliness in their public space was particularly impressive.

A combination of a number of these led to the control of the two most important insect vectors, flies and mosquitoes. Here is the place to put the sections on lice, flies and mosquitoes.

Part 5. The control of disease.

18. The air-borne diseases.

These are the least susceptible to human effort. There is very little, apparently, that can be done about the major killers - malaria, measles and tuberculosis. And indeed these were the three major killers in both contexts. Yet even they began to diminish in effect. How and why? This can only be understood in the light of everything that goes before. What happened was that through inter-actions, and in particular by getting enough crowding, these diseases became either childhood diseases, or their case fatality was lowered, or the standard of living rose enough (tuberculosis) to overcome them.

19. The web of disease.

This would return to the idea of causal chains & show how these have been elucidated and how complex they are. There are not only the relations between bacteria and viruses, between nutrition and disease, but the much deeper links, for instance between Buddhism - animals - dung - night soil - toilets - flies - enteric disease etc. As another example of how the proper understanding of disease patterns takes one right outside even the material world, I might consider the relations between dirt and development. This would show that in order to understand the all-important aspects of particularly Japanese cultural obsession with cleanliness, one has to go deep into culture. I could place the chapter on dirt and development here.

Part 5. The control of fertility.

20. Fertility.

This takes up the other half of the Malthusian problem. If mortality is controlled without the compensating control of fertility, there will be disaster. Natural fertility in human beings, as Malthus stressed, is very great. How was it controlled? In this chapter, the various controls to do with biology (disease, breast feeding etc.), and through conscious efforts to prevent conception (coitus interruptus etc.) are considered. These would not, in themselves, have been nearly enough to have solved the problem.

21. Marriage and sex.

This considers the second major strategy available to people, namely the number of women 'at risk' of having children. Here the strategies of the English and Japanese were quite different - the English used delayed and partial marriage as the major strategy, while the Japanese less so. The Japanese did the opposite, with an attempt to stop sex within marriage relatively early. With this strategy and natural fertility, the English more or less solved the problem. But the Japanese still had a considerable problem, which they dealt with...

22. Abortion and infanticide.

Both were to be found in England and Japan. But in England they were largely restricted to dealing with children conceived out of wedlock, while in Japan they were integrated into the central features of birth control.

23. Heirship.

Both England and Japan controlled their fertility to an unusual extent, though at other times releasing it. There was a complex inter-action between wealth and population of a positive kind. In order to understand this, we again have to move outside the limited sphere of fertility as such into the economy generally (and market capitalism in particular), and into the political, cultural, religious, kinship and other systems. Only then will we understand what happened. This chapter, therefore, tends to mirror the last chapter in the previous section, which again took us out into the wider society.