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The attraction of extraction: Three cases of state versus peasantry

The purpose of this article is to discuss certain 'easy ways out' in agricultural policy used over the centuries — apparent panaceas that turn out to be seriously detrimental to long-run prospects for agricultural production. Attention will be focused on a situation where the government, in an attempt either to achieve a rapid transformation of the economy or simply to reap for itself the fruits of peasant labor, opts for a policy based on force and compulsion rather than on incentives and voluntariness. We will discuss the considerable attractions for short-sighted policy makers of a policy that aims at simple, short-run extraction, but ignores the inherent long-term dangers.

Our first step will be to isolate three central ingredients in a stylized extractionist model for agricultural policy: government control over the factors of production, government control over surplus extraction from agriculture, and a repressive apparatus to prevent the agricultural labor force from withdrawing into subsistence production or leaving agriculture altogether.

Three cases will be examined where an agricultural policy has been pursued that in important respects coincides with our stylized model, namely ancient Egypt of the Ptolemaic dynasty, early nineteenth century Haiti during its first decades as a sovereign nation, and the Soviet Union under Stalin.¹ The paper is an exercise in distant comparison, i.e. a comparison 'between units ... belonging to different types of structures or institutions',² where the aim is to discover similarities in spite of the distance in time, space and structure. Hence, the choice of what a priori may appear to be three disparate cases. The purpose is to formulate a hypothesis rather than to test one.³

Other comparisons could be made, for example between the experiences of Vietnam and the Soviet Union or Mao's China. However, in these instances direct influence cannot be ruled out. The benefit of our examples is that, while they hold striking similarities, they can realistically be assumed to represent mutually independent developments. This will be used to substantiate a claim that our model holds an inherent power of attraction for policy makers who find themselves in a certain given situation.⁴ It will also be argued that there is an inherent contradiction in the model, between short-run extraction and long-run productivity development. The use of compulsion destroys incentives to work. The reduction of agriculture to an exploited colony removes the basis for accumulation. Finally, we will see that the emergence of a controlling bureaucracy

creates powerful vested interests for the maintenance of a permanent dividing line between the interests of the peasantry and those of the state. In the extreme case, production has to be carried out under the supervision of a military or police force which, in turn, creates an imminent danger of overmilitarization in the country.

A Problem of Extraction

The basic contention of our model is that policy makers view agricultural policy as a matter of quick *extraction* rather than as a problem of *production* in the longer run. The consequent short-run nature of the model will lead to an almost total disregard for incentive systems and the quality aspect of inputs. In addition, it has to be assumed that the government — or as in our cases, the despot — has an overriding interest in maximizing the short-run flow of resources out of agriculture. In the case of Ptolemy it meant the accumulation of personal wealth, whereas Stalin's objective was to achieve a massive military build-up. The Haitian case is an intermediate one — motivated both by military concerns and by a perceived need to create incomes for an elite. In order to fulfil these objectives, the model incorporates, in varying degrees, the three above-mentioned control ingredients: control over the main factors of production (in our cases land and labor), over surplus extraction, and over the producers as individuals.

The Factors of Production

Control over the factors of production is essential in order to control production itself. It prevents the peasants from concealing output, and it enables the authorities to determine the production potential, thus creating information on what can be extracted. The extractionist policy may require that the government can decide upon what is to be produced and where. In this respect, *land* is probably the easiest factor to deal with. By confiscating all land and vesting formal property rights in the 'state', the 'people', the 'King' or some such concept, it is possible to remove land from the market. Land will then be controlled and distributed by the proper authority.

Labor organization, on the other hand, could be very problematic. Some form of organization has to be found that prevents the peasants from voting with their feet and makes them dependent on participating in controlled production. The limiting case in terms of control is of course outright slavery.

In theory, a well-designed extraction policy should bring forth the necessary labor from the peasants, once they are forced to participate in the system. (If they work too little they will starve.) However, the production potential of land and labor in agriculture is not easily determined, and is subject to constant

variation. Hence, there is a need to control the input of labor. As we shall see below, our three chosen cases incorporate precisely these features.

Surplus Extraction

Once the size of output is known, some of this output must be transferred out of the agricultural sector. In the simplest case, goods only flow from agriculture to the rest of the economy. The agricultural sector is taxed without receiving anything in return. This, however, is only one way of extracting produce from agriculture. As soon as goods flow in both directions, there is an explicit or implicit trade which can also be used for extraction purposes. The conditions under which this trade takes place then become a determinant of the size of the extracted surplus.

A frequent first step in the process of surplus extraction is to impose compulsory quotas (or their equivalent) for the delivery of agricultural produce to the government authority. This entails identifying individual production possibilities and imposing individual quotas.

The imposition of fixed procurement quotas yields a secondary benefit in that it reduces the peasants to the status of residual claimants. The central authorities will always be guaranteed their predetermined needs, and the natural fluctuations that are inherent in all agricultural production will be borne wholly by the peasantry, via fluctuations in earnings. However, it also creates a problem. If a high level of extraction is desired, it may be necessary to incorporate into the model some form of minor 'private' plots. In lean years when (fixed) procurements absorb the bulk of output from the controlled fields, the households may invest their last labor reserves in plot production, thus securing subsistence.

Another commonly employed measure is to control the terms of the flow of resources *into* agriculture. Determining the price of essential inputs in terms of agricultural produce makes the rate of extraction a policy variable.

If the surplus is to be extracted via a government-controlled market, with administratively set prices, black or parallel markets must be suppressed, in order to deprive the peasants of an alternative source of income (which would allow them to decrease the share of agricultural output that is marketed via official channels). This is most commonly achieved via a state monopoly on trade, which should operate at that level of relative prices between agricultural and other goods that maximizes the size of the extracted surplus. The surplus could, however, also be extracted via a system of private markets where trade is taxed.

Repression

Perhaps the most important ingredient in the model, especially in the light of what has just been said, is the incorporation of a repressive apparatus. If the purpose of the exercise is to force the peasants to participate in something that is to their disadvantage, it will be necessary in the mild case to force them to produce more than for their own subsistence (the very definition of surplus production), and in the extreme case to prevent them from leaving agriculture altogether.

Simply keeping the peasants on the land can be arranged via, for example, domestic passports without which travel is illegal. It can also be arranged via joint responsibilities for delivery quotas, which means that should one individual leave, his obligations will have to be shared by those remaining. Social control will then prevent him from leaving. All that is needed is adequate measures of repression.

Ideally, one could then elicit the necessary labor by arranging a feudal day labor system, where the peasants are assigned labor quotas that correspond to the given procurement quotas. However, simply assigning a number of labor hours for each individual will not be sufficient. While the tasks of an industrial worker are easily defined and his performance relatively easy to monitor, the production process in agriculture is much more complex⁵ and the contribution of the single peasant is difficult to evaluate. The great locational and temporal difficulties involved in biological production, coupled with the removal of private incentive that is implied by an extractionist policy, will create a supervision problem of quite respectable magnitude.⁶ Supervision will thus be the hallmark of this type of agriculture and the requirements for a repressive and supervisory apparatus are increased further.

A Vehicle of Extraction

To summarize, which are the central features of our model? Firstly, we have central control over the means of production in agriculture. Secondly, we have a general framework wherein the state or the central authority either possesses an efficient method for taxing the surplus away from agriculture and/or controls trade and the important relative prices. Finally, we have a repressive apparatus that ensures participation by the peasants in a venture that may be unprofitable, or even directly harmful, to them. With these three building blocks, the rate of extraction of resources from agriculture becomes a controlled policy variable, and we shall now proceed to see how this has been used in three concrete historical instances: first in the case of Ptolemaic Egypt, then in early nineteenth-century Haiti, and finally in the case of Stalinist Russia.

Ptolemaic Egypt⁷

After the death of Alexander in 323 B.C., Ptolemy secured Egypt for himself.⁸ During the next 70 years, Soter (Ptolemy I, 323—283) and Philadelphus (Ptolemy II, 283—246) created the Ptolemaic economic system. They took over a traditional oriental economy⁹ and elaborated it into 'the most thorough-going system of State nationalisation known prior to the twentieth century, unless conceivably the Peruvian.'¹⁰

The objectives of the Ptolemies appear to have been wealth and power. Money was needed to pay mercenaries. An army and a fleet were necessary both for external protection or expansion and for internal stability. A ruler must have a certain violence potential to remain in power. Thus, security calls for military expenditure.¹¹ To this end, the Ptolemies 'treated Egypt as a money-making machine.'¹² Exactly how much they managed to extract is not known, but 'the dynasty was generally regarded as much the richest thing in the world.'¹³

In principle, the King controlled all economic activities. There were many government monopolies, and almost everything was strictly supervised. Many activities could only be carried on by purchasing an annual license. Possibly, this pertained to all non-monopolies.¹⁴ For the purposes of the present article, we may confine our attention to some of the most important areas.¹⁵

All land was owned by the King. Land was either directly in his hands, farmed by royal peasants, or was land in grant.¹⁶ The *fellahin* (Egyptian working-class) population of the rural areas who constituted the bulk of the population bore the brunt of the Ptolemaic system's extraction and oppression. The most important group here were the royal peasants. These did not have many draft animals. The King owned animals that were rented to the farmers. The oxen that belonged to the peasants, apart from being taxed, were at the disposal of the state, and were distributed at sowing and harvest time so as to achieve maximum production. Furthermore, the King lent agricultural implements, including all iron tools, to the peasants.

Exactly to what extent the peasants were bound to a specific position — geographically and socially — is hard to say. It seems likely that originally they enjoyed a certain amount of social and economic freedom and were not bound to a particular occupation or location.¹⁷ On the other hand, they were never free from the state but were tied to it for their survival.¹⁸ At any rate, such freedom as may have existed would gradually disappear, as we shall see.

The Ptolemies in practice controlled the relevant factors of production. This was also the case with relative prices. The main Egyptian staple was wheat. The royal peasant could not dispose of the harvest until Ptolemy had received his part, which consisted of a fixed amount. The peasant thus held the position of residual claimant, and carried the losses during bad years. In addition, there was a tax on land and a number of other minor taxes. The King also supplied next year's seed grain, but with a duty of up to 50 percent. All in all, the peasant was left with less than half the harvest — little more than enough to live on.

All royal peasants, and sometimes others as well, were told which crops to sow. The growing of grain of predetermined varieties was not the only obligation of the royal peasants but 'after reaping their corn, they had to grow a green crop on which to feed the royal cattle.'¹⁹ They were also subject to compulsory labor, for example on the dikes and canals, or to cultivating larger areas if ground fell vacant.

One feature of the system that eased the lot of the peasants somewhat was their right to a house and a garden. These were 'private' in the narrow sense of disposal. Supposedly, the produce from the garden constituted a buffer in times of hardship, harvest failure, etc.

The King also had strict control over vital consumption goods. There were many royal monopolies in Egypt, but the really important one was oil.²⁰ Sesame oil was a nutrient of greatest necessity. Oil of inferior qualities was used for lighting. Everything concerning oil was nationalized and state controlled. Each year, the King decided how much land should be planted with oil-producing plants, and he also supplied the seeds. Planting was compulsory. The King then took the harvest at a fixed price. Finally, after pressing, the oil was distributed through retailers, also at a fixed price. On this business, Ptolemy made a profit ranging from 70 to 300 percent. One could easily continue to enumerate the royal monopolies. However, the important point to note is that the King controlled the price of those necessities that the individual farmer could not produce himself.²¹

Foreign trade was also controlled by the Ptolemies. The policy consisted of exporting as much as possible. The main export was grain, but papyrus and other items also entered the picture. When exports were not a royal monopoly, they were taxed. At the same time, imports of domestically produced commodities were discouraged through high tariffs. A number of items that were not produced domestically were imported through the King, for example lumber and iron as well as luxury items like incense and ivory.

The whole system required an extensive administrative bureaucracy. All land was inspected and registered. So were draft animals and mobile property. Sowing, cultivation and harvesting were all supervised. The King's wheat was gathered in local centers and then shipped to Alexandria for storage. The officials not only supervised the peasants (and each other). They were also personally responsible for collecting the King's share of the harvest, taxes, etc. When taxes were farmed out, the tax-farmer was personally responsible, but also controlled by the state in order to prevent excessive oppression.

The Ptolemies thus created an economic system which enabled them both to enrich themselves and to sustain the necessary military and bureaucratic apparatus. The grip over the economy was tight. Almost all activities were controlled by the extensive bureaucracy. The most important factors of production were under royal control, and large amounts of resources were extracted from the native peasantry. The King took fixed quotas from the peasants who were reduced to residual claimants. At the same time, he determined vital relative prices, with respect to agricultural produce being extracted from and incentive goods flowing back into agriculture.

Early Nineteenth Century Haiti²²

Some 2100 years after the Ptolemaic system had been created in Egypt, the Haitian slaves in the Saint-Domingue colony decided that they had had enough of French supremacy. After prolonged wars of liberation, lasting for more than twelve years, Haiti proudly proclaimed its independence in 1804 as the second sovereign state in the Western Hemisphere.²³

The new country emerged into a world which was hostile for several decades to come. Independence was not recognized by a single foreign state until 1825 when France, of all nations, did so, but only after having squeezed a huge indemnity out of the Haitians at gunpoint — having assembled a fleet of men-of-war outside Port-au-Prince.²⁴

The 1825 recognition by France was a highly significant event in Haitian history, since this put an end to more than two decades' fear of a return of a French invasion army to Haiti. The departure of the French after the wars of liberation had not been a settled, negotiated one, but the departure of an army defeated by the rebels and yellow fever after a protracted and cruel war. France was to maintain its claims for the Saint-Domingue colony for several years. Only the events of the European war scene prevented Napoleon from sending off a second invasion force to the West Indies.²⁵

The fear of a French return was a most important determinant of the economic system that was developed in Haiti during the wars of liberation and during the first years of independence. Haiti was a nation of black slaves that had managed to throw off the colonial yoke in a geographic area characterized by colonialism everywhere else. It could not count on help from outside in a world of slaveholders, so if independence was to be effectively conquered and maintained it was completely essential that the country's military strength was sufficiently great to fend off a possible invader.

Military strength, however, was costly — not least in terms of foreign exchange since weapons and ammunition had to be imported. Without trading with the United States and Britain, the Haitian generals would not have been able to build up an army that was able to resist the onslaught of the forces led by Napoleon's brother-in-law, General Leclerc.²⁶ Nor would presumably independence have been maintained after 1804. This in turn made exports the key item in the economy. There was a one-to-one correspondence between Haiti's ability to export and its ability to defend itself. It was absolutely necessary to create an economic system that guaranteed that exports were maintained at a high level.

The need for defense was one of the two main determinants of the economic system developed by Toussaint L'Ouverture and Jean-Jacques Dessalines during the decade beginning in 1796. The second cornerstone rested on purely pecuniary considerations. During the time when Haiti emerged as a sovereign nation, a new upper class emerged that was substituted for the former French colons. This class consisted, among others, of the leading army generals and

other top officers.²⁷ However, dissatisfaction among the members of the coalition of powerholders on the subject of income distribution easily led to the break up of the coalition. Thus, the economic system was faced with a double task: that of promoting exports on the one hand and ensuring an income distribution skewed in favor of the dominant powerholders on the other.

The crucial issue was to maintain the plantations that had existed during the colonial period, since exports — mainly sugar — were produced on plantations. During the wars, extensive damage had been done and the slaves had either run off or had started to cultivate food in small gardens instead.²⁸ In addition, the overall population had undergone a severe decline during the wars.²⁹

This situation presented a formidable challenge to the Haitian leaders, but an efficient extraction policy was quickly formulated, one which was to continue in southern Haiti up to 1809, when Alexandre Pétion (then president in the southern half of the country) decided to redistribute the land, and up to 1819 in the north when Henry Christophe, king of northern Haiti, decided to follow suit.³⁰ To revive plantation agriculture, the land was gradually concentrated into government hands with the result that in 1806, between 75 and 90 percent of all land was state domain.³¹ Control was thus obtained over the land market, which in turn opened the road to surplus extraction. The state domain was rented out to the highest bidders for periods of five years only. All properties, regardless of whether they belonged to the state or not, were subjected to a tax calculated on the production potential of the average estate worker (which in turn created an incentive to squeeze as much as possible out of the workers). On top of this, one-quarter of the harvest was obtained as rent on all government-owned land that was rented out.³²

Control was obtained over the labor force as well. The colonial system was built on slavery. This was of course abolished by the Haitian wars of liberation, but neither Toussaint nor Dessalines hesitated to put the ex-slaves back on the plantations under conditions strongly reminiscent of slavery. The population was divided into agricultural workers, soldiers and holders of 'urban' trades, and those who could not prove that they belonged to any of the latter two categories were automatically considered agricultural workers. This, in fact, was the only way of ensuring on the one hand that labor was forthcoming, and on the other that export agriculture survived. As a result of the desertion of the plantations by the former slaves and the devastations caused by the wars, export agriculture was virtually dead in 1795. Coffee — the crop that did best — was down to less than 3 percent of its 1789 level.³³ Haiti had in fact become a closed economy.³⁴

That export agriculture had to be revived thus remained beyond the slightest doubt and this could only be done by reviving plantation agriculture. It would have been prohibitively costly to squeeze a surplus of the same size out of a nation of smallholders that were almost one hundred percent intent on subsistence cultivation. A system would have had to be devised which a) made the peasants turn to export crops in addition to food production, b) allowed the taxation of many thousands of dispersed farms without too much evasion, c)

ensured a redistribution of agricultural income in favor of the members of the ruling clique. In this perspective, large-scale plantation agriculture had strong comparative advantages. In the first place, putting the management of the plantations directly into the hands of those who were to benefit from them meant that no redistributive bureaucracy was needed — a very important consideration in a situation where the country lacked an experienced administrative cadre.³⁵ Secondly, with a lower number of farms to be taxed, further savings of bureaucracy could be made. Finally, with large-scale plantations that were technologically much better suited for sugar production than were the small peasant plots,³⁶ part of the incentive problem disappeared as well. Thus, only the plantation alternative remained. However, this dreaded system was not going to be accepted by the ex-slaves without coercion.

And coercion there was.³⁷ The ex-slaves were simply ordered back to the plantations, in a system that built on serfdom. They were unable to leave the plantations without special permission, and special permission was seldom granted. On the plantations, work was carried out under military supervision. The symbol of colonial and racial exploitation — the whip — was abolished, but the *cocomacac* club and a tough vine known as *liane* were put to generous use instead. A rural police force was established whose task it was to run escaped workers down and bring them back to the plantations. Passports were issued which made it easy to check whether absence from plantation work had been authorized or not. Finally, a very active interest in supervision was taken by the very top hierarchy of the Haitian state. To ensure their survival, the agricultural workers were given 'private' provision plots on which to grow their food. On top of this they also received one-fourth of the produce from the plantation.

In this way, the early Haitian rulers created an agricultural system that had much in common with the Ptolemaic one but which went even further in its control over the labor force. The land was concentrated in state hands. The ex-slaves were put back to the plantations as workers and could not escape from there, being supervised by the military. To extract the agricultural surplus, a system was created, whereby the state obtained one part in the form of rent and taxes and those who rented the plantations another part. This ensured both that weapons and ammunition could be imported and that the ruling clique obtained an income.

The Soviet Union under Stalin³⁸

In the case of the Soviet Union, it is possible to follow the formative period of economic policy in more detail, which sheds additional light on the appeal of the extractionist policy. Early Soviet history is very much about agriculture. This is an important fact to establish, particularly in light of the fact that early Bolshevik thought — as well as the legacy of Marx — contained virtually nothing on agrarian matters.³⁹

The first years of Soviet power were marked by a rather peculiar contradiction. On the one hand, the revolution was largely a product of strong peasant discontent while, on the other, the revolutionary vanguard had an almost exclusively urban background, with little or no knowledge and understanding of agricultural problems. The first decade of Bolshevik agricultural policy was clearly marked by this contradiction.

During the first years of so-called War Communism (1918–21) it is difficult to talk about a conscious policy. The combined pressures of revolutionary change, civil war and foreign intervention led to disruptions that seriously threatened food supply for the cities and the army. The government resorted to force, sending out armed detachments in the countryside to forage, offering useless paper currency in return for grain. This was the *prodrazverstka*, or product procurement policy, and most likely it was the only way out, given the circumstances.⁴⁰

The results, however, were predictable. The peasants cut back on production, to subsistence level, and sometimes pitched battles would occur between demobilized peasant-soldiers, who had kept their arms, and the equally armed procurement agents, who were sent out to uncover concealed grain reserves. The stranglehold on the cities was tightening, and by the spring of 1921, War Communism collapsed completely. The New Economic Policy (NEP) was introduced.

The real core of NEP was the substitution of incentives for compulsion in agricultural policy. Instead of forceful procurements at symbolic prices came a predetermined tax in kind (*prodnalog*) and freedom to market any surplus at whatever price the market would bear. Even private middlemen were allowed and their flourishing trade effectively put the state distribution system more or less out of business. The peasant response was equally strong, with both sowings and production expanding rapidly. By 1925 the peak of NEP was reached. Liberalization had by then gone so far that even the hiring of labor and the leasing of land was permitted on a limited scale. The Bolsheviks began to see the writing on their wall.

These two diametrically opposed policies form important ingredients in the background to the policy of mass collectivization, which was launched by Stalin in 1929 and which gave Soviet agriculture the characteristic structure which is still largely intact. The third ingredient was the external constraint. The Soviet state was surrounded by hostile powers and the need for rapid industrialization and armament was probably genuinely felt. In 1931, and with ghostly foresight, Stalin himself said: 'We have fallen behind the advanced countries by as much as fifty to one hundred years. We have to overcome this lag within ten years. Either we accomplish this, or we perish.'⁴¹ As we know, the task was just barely completed at the time of the German attack, but how was it done?

Agriculture had to play an important role. As was outlined by Preobrazhensky in his theory of 'primitive socialist accumulation', the peasantry had to part with their surplus via an unfavorable movement in the terms of trade between industry and agriculture.⁴² It may be noted in the context, however, that neither he

— nor anyone else — foresaw mass collectivization as a policy to achieve this end. Preobrazhensky thought in terms of taxation and manipulation of prices, and the missing link in his theory was that he failed to show how the peasants were going to be induced to participate in this venture. That link was to be supplied by Stalin.

The hallmark of the policy of mass collectivization was control, and it is striking how many of the emergency measures of the earlier *prodrazverstka* policy that would now reappear in a new guise. All land had been nationalized already on the very morning after the October 1917 *coup d'état* and the NEP provisions for leasing land were a temporary measure indeed. This factor was thus under firm government control.

The real core of the policy was instead directed at bringing labor, i.e. the peasants, under control. The first step was reminiscent of the *prodrazverstka*. When state procurements threatened to fall far short of targets, during 1927–28,⁴³ Stalin decided once again to use force. Armed detachments were sent to the Urals and to West Siberia, where the harvest had been reasonably good, and in this way large amounts of grain were ‘procured’. This operation was termed the Ural-Siberian Method,⁴⁴ and when it was repeated in the following year the risk of meeting the same fate as during War Communism was becoming apparent. It was then that Stalin decided to go all out.

The main difference between collectivization and the *prodrazverstka* lies in the provision of an institutional framework to complement the earlier use of simple force. The new collective farms, the *kolkhozy*, have several interesting features. Most importantly, membership was made compulsory and there were great losses in both livestock and human life as peasant opposition was brutally crushed. In order to prevent them from leaving the new farms, two measures were used. First, a system of domestic passports was introduced, without which domestic travel was illegal. Peasants were not issued with such passports and could thus be captured as runaway serfs if they tried to leave. Secondly, state delivery obligations were imposed on the *collective*, which meant that neighbors would have to make up for those who failed to pull their weight. This introduced social control over both presence and effort of the members.

As a vehicle of extraction, the *kolkhoz* was admirably well suited, yet this was not all. Its environment was adapted as well. All machinery and larger equipment was removed from the farms and transferred to special Machine Tractor Stations (MTS) which were designed to ‘help’ the *kolkhozy*.⁴⁵ In practice they served two functions: to increase control over agricultural operations, which subsequently had to be performed according to the MTS plans, and to devise an additional channel for state procurements, since MTS services had to be paid for in kind. The controlling and punitive character of the MTS is illustrated by the fact that during the most difficult years (1933–34) separate political departments were organized within the stations, which were charged with monitoring plan fulfilment and which did so in close collaboration with the security forces.⁴⁶

One important facet of this model was that the peasants were reduced to the

status of residual claimants, as payments to labor (i.e. the members of the 'co-operative') would only be made after all other obligations (i.e. deliveries of produce to the state and the MTS) had been met. This meant on the one hand that state procurement from agriculture was made a stable and plannable variable, but it also meant that the survival of the peasantry was put in danger, if a high rate of extraction was desired. In order to make survival *possible* in lean years, the peasants were granted the right of minute private plots where they could expend their last labor reserves to grow food and raise some livestock. The many restrictions surrounding the plots serve to indicate that they were intended as a mere safety valve.⁴⁷

By 1934 the *kolkhoz* system had been stabilized, which meant that the whole peasantry had either been incorporated in the *kolkhozy*, or deported, and it was a model that was well suited to Stalin's needs. Not only did it make possible a substantial squeeze of agriculture, but it also led to the creation of a controlling bureaucracy of quite substantial proportions, which helped increase the party's general grip over the countryside. Finally, with the renewed suppression of private trade, the state controlled the flow of resources both out of and into agriculture.⁴⁸ Extraction of the agricultural surplus had been made a policy variable.

The Extractionist Trap

To some extent, the introduction of the 'extraction model' in all three of our cases was the result of historical precedent. The Ptolemies could draw on the system of the Egyptian Pharaohs, Toussaint and Dessalines were well acquainted with the French colonial economy based on slavery, being ex-slaves themselves, and Stalin of course knew the history of tsarist feudal Russia. However, both the Ptolemies and Stalin went far beyond their predecessors in extracting resources from the agricultural sector, and the Haitian leaders had the audacity to almost re-introduce slavery among their newly freed subjects. However, these actions by powerholders are not in fact surprising. Given the goals of the decision makers, the model is sufficiently attractive, in short-run economic terms, to have a value even outside the particular historical situations presented here. It appears at least, to offer a simple way of making large short-run resource transfers from the agricultural sector to the powerholders. In addition, the model enhances the extent of political control over the citizens, precisely because it builds on control of the production effort at the micro level.

In all three cases, an urgent need to transfer resources away from agriculture existed. The time of the Ptolemaic dynasty was a time of turmoil and war. The fleet and the army had to be equipped. Of even greater importance was the goal of personal wealth. As with almost any tyrant (in the Greek sense), nowadays or in antiquity, this was one of the main objectives of the Ptolemies. The Haitian case appears as a rather close copy of the Egyptian one. The very existence of

the nation was threatened, which called for heavy military outlays. Furthermore the wealth of the ruling clique had to be ensured. For Stalin, however, the motive of personal wealth was not of prime importance. To him the accumulation of resources for the purpose of strengthening Soviet military power (against external as well as internal enemies) was the overriding consideration.

For certain rulers, the goal of personal wealth would be mitigated by a concern for their subjects, as was the case with Toussaint, and after him, Henry Christophe, who in spite of the extractionist features of their system saw to it that the lot of the cultivators remained at a decent level.⁴⁹ Similar considerations can, however, safely be ruled out in the cases of both the Ptolemies and Stalin, and for Dessalines as well. The Ptolemies did not share the dream of Alexander of uniting the Greek and the oriental elements. Egypt was ruled and defended by a Greek 'community'. The gradual involvement of the Egyptians in these activities, emerged out of a subsequent necessity. Hence, there is no reason to suspect that Soter and Philadelphus were influenced by any concern for the original inhabitants of the country when they developed their economic system. Nor is there any good case for assuming altruism on the part of Dessalines. During his short reign the common man was increasingly worse off as discipline on the plantations grew increasingly severe.⁵⁰ Stalin's attitude probably needs no greater illumination. It can be reflected by a comment he made when asked whether it would not be possible to admit some of the surviving kulak peasants to the *kolkhozy*: 'When the head is off you do not weep about the hair.'⁵¹

The extraction model, however, takes on additional attraction, since it combines resource extraction with the creation of a power base. The administrative bureaucracy and the military required to sustain the system will have an independent (vested) interest in maintaining the system, and thus to support the ruler as long as he does not endeavor to change it. At the same time, the proceeds from the extractionist policy can be distributed to those with a high violence potential, thus strengthening the position of the ruler. The appeal of this model should thus not be surprising.

In the introduction to this paper, it was stated that the long-run effects of an extractionist policy of the type dealt with here are mainly negative. The model could, in fact, be a trap. This contention stems from three facts. Firstly, as shown above, it seems to offer an appealing solution to short run problems. Secondly, the properties of the model inherently lead to problems in the long run. Thirdly, there may be no turning back. Once the extractionist policy has been chosen, a change of policy becomes extremely difficult, as self-enforcing mechanisms tend to come into play.

The remaining part of this paper will deal with the latter two long-term properties of an extractionist policy. As a prelude to this discussion we will review the long-run development in our three cases, beginning with Ptolemaic Egypt and Stalinist Soviet Union. These two cases offer many similarities. The Haitian experience of extractionist policy will then be outlined. In Haiti, the system was abolished after only 15–20 years, and partly for other reasons than

those discussed in this article. The case of Haiti, however, provides an interesting illustration of the effects of an extractionist policy that has taken further steps on the road towards an enslavement of the rural population.

Effects of the Extractionist Policy

Ptolemaic Egypt

The extractionist policy certainly appears to have been effective in Egypt in the short run — witness the *richesse* of the early Ptolemies. A number of improvements were introduced in agriculture which increased productivity and total output. However, the system also entailed properties that would lead to serious problems in the longer run.

The native population disliked the system from the start. The discontent of the peasants was not due primarily to poverty. It appears that the real wage in Egypt was higher than in Greece during this period.⁵² Nor was it primarily a reaction against a novelty, or against foreign rulers (although both these factors probably contributed). Rather, it was a reaction against the system itself. The tight control of the Ptolemaic bureaucracy was something conceptually different from the 'mild paternal form of pressure' that the peasants were used to.

By and by, the opposition to the system took on a number of forms. In agriculture, both the individual peasant plots and the forced collective undertakings suffered from everything from lack of interest to active withdrawal of labor on the part of the peasants. The supply of labor and the working population diminished: strikes (an established form of protest in Egypt) became more frequent as did direct escape, and even rebellion. Wars, rebellions and poverty reduced the population. Infanticide is believed to have been practiced. The work that did take place was not satisfactory. The peasants displayed a lack of initiative and a reluctance to cultivate land that required any exceptional degree of care and attention. They were indifferent to increases in production, and cultivation was careless. Dikes and canals deteriorated because of slovenly work and a lack of labor. The amount of idle land increased. There was also direct cheating: theft of grain from the threshing floor, of oil from the presses, and so forth. There was smuggling and non-licensed trade, to avoid the monopolies and restrictions on imports and trade.

Gradually, agricultural output declined, and this was an important reason for a general economic decline (together with the loss of dominions and a deterioration of trade). Lack of labor and the ensuing decrease in cultivated area undermined the economy. This was not counteracted by any secular upward trend in productivity. Tax arrears grew.

The principal reaction of the King and the bureaucracy was to tighten their hold and to increase pressure on the peasants. Free initiative was gradually restricted. The peasants were tied more and more firmly to the plot. The first

step was to force the peasants to cultivate idle or abandoned land. Finally, collective responsibility was introduced, whereby a whole village was made responsible for the cultivation of a certain amount of land. With such measures one approaches the plantation system used in Haiti.

At the same time, the bureaucracy developed into a vehicle of oppression with a life of its own, which could no longer be restrained by the King. Since the officials were personally responsible for the King's revenue, their attitude towards the peasants became increasingly oppressive. The peasants then tried even harder to escape their 'duty', which led to more oppression, in a vicious circle. The bureaucracy also had an independent interest in extracting as much as possible from the peasants, keeping any proceeds above the King's quota for themselves. This contributed to the process.

From time to time, the King tried to restrain the officials and tax-farmers, but 'as a rule officials and tax-farmers combined were stronger than the King.'⁵³ The later Ptolemies were apparently incapable of sweeping away the whole system. Sometimes, steps were taken towards a liberalization, with more freedom for personal initiatives. The King also tried to ease the pressure by reducing the rent on land. However, these measures never led to any permanent change in the system. As we shall argue below, it is therefore not surprising that the liberal tendencies did not lead to permanent improvements in the economic situation. (Another measure employed was to increase the number of people who belonged to the privileged classes. Obviously, this may increase political stability, but cannot improve economic performance.)

Stalinist Soviet Union

The effects of the policy pursued in the Soviet case are intimately linked to the aims of that policy. Extraction was the objective and accordingly all incentives to produce were neglected. In the first years of the *prodrazverstka*, as well as during the application of the Ural-Siberian Method, the policy was successful in terms of extraction. The peasants had surpluses and these could be confiscated. Very soon, however, the lesson was learnt and the peasants fell back on subsistence production, leaving very little for the procurement agents to confiscate. This kind of extractionist policy thus proved itself unfeasible already in the medium run. If moreover, we were to accept the argument presented by James Millar, that despite substantial direct extraction of agricultural produce, the net flow of resources actually moved in favor of agriculture, then the policy was a disaster even in the very short run. For our purposes, it shall fortunately not be necessary to deal with this latter issue. It is certainly a fact that the policy was harmful in the long run, and it is certainly the case that the Bolsheviks *thought* that it would be successful.⁵⁴

It is this simple fact that accounts for the many swings of the pendulum before Stalin finally managed to break peasant resistance for good and to stabilize the

kolkhoz system. While the matter was still undecided, the peasantry held considerable power over the cities and the army — Stalin would talk in terms of outright war — via their control over food production. The issue was thus not simply one of capitalism in the countryside, but one of who should have the say over the future development of the economy. There was general agreement that rapid industrialization was necessary, and that the required accumulation could only take place in agriculture.

The long-run effects of extraction based on the *kolkhoz* system, however, have meant imposing a dear price on coming generations for the — chiefly power related — benefits once bought by Stalin.⁵⁵ It is an established fact that the performance of modern day Soviet agriculture is a legacy of policy during the first decades after the revolution.⁵⁶ In 1974, for example, Moshe Lewin passed the following verdict:

Soviet agriculture has not yet managed to effect a real technological revolution similar to the one which took place some time ago in other developed countries. Agriculture is still rather primitive and a great problem and there is no doubt that the consequences of the first quarter of a century of *kolkhoz* history still weigh heavily and are far from having been definitely overcome.⁵⁷

The real Achilles heel of the system was the removal of the link between effort and reward, for the individual peasant. Not only was the peasantry as a whole reduced to the status of residual claimants, but the individual peasant's claim to a part of the residual was linked to the quantity of labor performed, rather than to the results of that labor. This removed all interest in supplying any effort. Alexander Yanov recalls from his own experience the resulting supervision problem:

To discover those who are lying drunk under their tractors, or who have driven to the bazaar in their trucks during working hours, is relatively easy. But how is the depth of plowing to be measured for each tractor driver? How is one to check the speed at which he drives the tractor?⁵⁸

Moreover, interest in work for the collective was further eroded by the introduction of private plots, which competed with the socialized sector for the peasant's time. The plots were necessary to secure survival of the labor force in case the fixed quotas in a poor year should absorb the entire harvest (the peasants would then have to work around the clock on the plot to survive). However, their detrimental effect on incentives should be equally obvious.

The composite long term effect of this agricultural policy has been what Yanov refers to as a 'de-peasantization of the peasantry by destroying both their incentive and their time-honored habits of work on the land,' a process which 'destroys the peasant in the peasant, day by day, year in and year out.'⁵⁹

Haiti

The extractionist policy proved to be very efficient when it came to restoring the export economy in Haiti. In 1795, hardly anything remained of the former plantation economy and exports were virtually dead. In comparison with 1789, coffee exports were down to 2.8 percent, sugar to 1.2 percent and indigo to 0.7 and 0.5 percent, respectively, of their former levels.⁶⁰ In 1802, with the exception of indigo, the figures were up considerably: 45, 38, 58 and 4 percent.⁶¹ Renewed war activities in 1802–03 led to new destructions, but Dessalines managed to get export production back to almost the same level in 1804: 40, 34, 43 and 4 percent of the 1789 volumes, respectively, for the four export crops.⁶² Only indigo was lost.

Without doubt, the system worked in Haiti in the sense that exports could be revived from what at the outset appeared to be a completely hopeless position. Moreover, Henry Christophe in the north, who relied on this system up to 1819, seems to have been doing better in terms of agricultural production than his rival, Pétion, in the south, who divided the land already in 1809.⁶³

The decision to redistribute the land gave the death blow to the model in Haiti. During the course of the decades that followed, Haiti underwent a transition from a plantation-based economy to a peasant nation, where in the course of time the small family holding would dominate. The plantation system, under the prevailing circumstances, was economically inefficient in the longer run. It built on strong concentrations of both capital and labor. In Haiti, both these factors were scarce as a result of the destructions that took place during the revolutionary wars. This increased the pressure on the system, because of the relative attractiveness of smallholder production. Secondly, the market for the most important export product, sugar, deteriorated both as a result of increased competition from abroad and as a result of disruptions caused by the Napoleonic wars.⁶⁴

As could be expected, the extractionist system was never popular among those who constituted its very backbone: the workers. However, the extreme circumstances prevailing during Toussaint's administration, with a French invasion army threatening to put the Haitians back into slavery, coupled with the fact that Toussaint apparently did not strain the system beyond what the workers considered tolerable, enabled it to survive without too many problems. Dessalines, on the other hand, was too intent on revenue maximization. The workers were squeezed considerably more than under Toussaint. Consequently, to an increasing extent, the workers deserted the plantations when they could and escaped into the mountains where it was difficult for the authorities to reach them.

The type of extractionist policy that we have dealt with in the present article quickly came to an end in Haiti, for reasons that by and large did not have anything to do with the built-in long-run problems of the model. Forces outside the model made it necessary to discard it. Still, using the Haitian material, two

observations can be made with respect to the long-run properties of the extractionist model. In the first place, there was a tendency for work discipline to deteriorate over time, when the exceptional circumstances connected with the wars of liberation disappeared. Secondly, to counteract this, stronger punishments were meted out, i.e. the role of the military increased. As a result, Haiti during the rest of the nineteenth century was to become an overmilitarized country. Not even the destruction of the extractionist model as such prevented this from taking place. An autonomous force had been created that was to plague the country until the American occupation in 1915.

The Long-Run Effects

In many circumstances, efficient control of the efforts of agricultural labor is prohibitively costly or otherwise not attainable. This is for example the case with smallholder production such as the one in Ptolemaic Egypt, and also in twentieth-century Soviet Union.

Our interpretation of the above historical episodes (one still effectively continuing) is the following. An extractionist agricultural policy is in a sense self-defeating. In the short run, it may enable the government to transfer large resources out of agriculture for other purposes. In a longer perspective, however, the volume of agricultural production will be adversely affected.

The individual peasant or agricultural worker (let alone slave) is deprived of the incentives for efficient agricultural production. The rewards for his own efforts to increase production are too small (or non-existent) to make them worthwhile, above an absolute minimum (subsistence). He may be able to increase his efforts and produce more in a given year. However, unfavorable terms of trade decrease the value of such efforts. Worse yet, he faces an obvious risk that the rate of extraction (delivery quotas, taxation, etc.) will increase in the future.

Hence it would be more profitable to work in one's garden, for example. If the peasant is a residual claimant (as in Egypt and the Soviet Union), it is necessary to find other means of subsistence to protect against a harvest failure. (In this respect the Haitian laborer, receiving one-quarter of the crop, was better off, since the risk was shared with the person disposing of the plantation, who in turn shared it with the state.) Furthermore, all collective works will suffer. Peasants will withdraw labor here as well. What time is devoted to collective undertakings will be spent with a minimum of effort, unless extremely tight discipline can be maintained.

There will thus be strong tendencies for agricultural production to fall. For a while, these can be offset by productivity-increasing changes introduced by the government. (As should be clear from the above, peasants will not by themselves make such improvements.) However, barring major breakthroughs in technology, increases in output achieved in this way will be bought at rapidly increasing

costs. This is because the individual peasant still has no incentive to cooperate. Implementation of new technology will not be efficient; nor will the use and care of new implements of production.

It is important to recognize that the extractionist policy may often be the most efficient one in terms of appropriating resources in the short run (although by no means necessarily). In the first place, it is conceivable that total production will initially be *higher* with an oppressive policy. This was clearly the case in Haiti. Depending on the circumstances, it may take some time before the advantages of free initiative come into full play. Conversely, it may also take some time before the disadvantages of the extractionist model begin to show up. This was probably the case in Ptolemaic Egypt, for example. Farmers used to state control for centuries (in fact millenia) would have been bewildered by more freedom. It also took some time before the problems of the extractionist policy became serious.

Even in this case, however, output will almost certainly be considerably lower in a longer perspective when the extractionist policy is used. It was argued above that production will tend to fall. The bureaucracy will typically try to counteract the decrease in output with tighter controls. However, the impetus of such a strategy is soon exhausted. We noted above that there are considerable inherent difficulties in controlling agricultural production. Furthermore, tighter control — more oppression — will induce peasants to fight the system to an even higher degree.

Secondly, even when a 'free enterprise economy' leads to higher total production, the amount appropriable by the state may be lower. There are large transaction costs involved in extracting resources from the agricultural sector (income assessment, tax collection, etc.). These costs may be lower with an oppressive policy. Consequently, the amount that it is economically feasible for the state to appropriate may be larger.⁶⁵ Douglass North emphasizes that a ruler will typically choose an economic policy that maximizes his wealth, rather than economic efficiency or growth, and that the transaction costs involved are of significant importance.⁶⁶ It was argued above that such considerations formed the basis for the agricultural policy by Toussaint and Dessalines in Haiti. It would have been impossible to extract the 'necessary' resources from a nation of independent smallholders. The Soviet experience of the late twenties and early thirties also provides a striking illustration of this argument. The NEP policy with its increased freedom had boosted agricultural production, but at the same time led to lower state procurements. This, as we have seen, was one of the factors behind Stalin's extractionist policy.

This brings us to the question of the bureaucracy required for an extractionist policy. As argued above, oppression is a necessary complement to extraction. When the policy meets with problems, the solution can be either liberalization or increased oppression. In practice, it is mainly the latter solution that seems to be chosen. The economy may then easily move towards a totalitarian system where production is monitored in detail and this in turn will be used to oppress

citizens in other respects as well.

The oppressive bureaucracy also constitutes a power base for the ruler. At the same time, the extractionist policy is its *raison d'être*. Members of the oppressive apparatus can usually benefit by tightening oppression, i.e., by extracting more from the peasants. The surplus proceeds from this extraction can either be used as an argument for promotion, or may find their way directly into the pockets of the bureaucrat. This means that the bureaucracy has considerable vested interests in the maintenance of the extractionist system. This bureaucracy has a life of its own, independent of the ruler who created it. All efforts by the ruler to 'liberalize' will be blocked by the bureaucracy, and the ruler is at the same time dependent on this bureaucracy to remain in power.

Of course, what might happen is that a rival ruler manages to throw the old one out. However, this does not necessarily change the situation. Unless the new ruler is very determined and has a strong, lasting power base, it will be tempting to take over the one of the old ruler — the oppressive bureaucracy. If that happens we are back at square one. The lasting overmilitarization of Haiti is a case in point.

The extent and speed with which problems of an extractionist policy appear will depend on the specific circumstances. If the system seems to have worked better in Egypt than in the Soviet Union in the long run, this may be explained by differences in the general situation and minor variations in implementation. For example, the Ptolemies could introduce productivity increasing innovations in agriculture that were rather insensitive to the attitude of the peasants, such as rotation of crops and new varieties of seeds and animals. They also improved irrigation and initially increased the cultivated area. The Ptolemies never tried to collectivize agriculture as Stalin did — while collectivization increases control over output, it also creates additional incentive problems.⁶⁷ Certainly the Ptolemies used collective labor, but only where it was necessary and where an age-old tradition to do so existed.

Under certain conditions, the logical end-point as far as the rural population is concerned is slavery. This is when the entire surplus from agriculture, above what is considered necessary to maintain the labor force, is extracted. Consequently, the population has no reason whatsoever to remain in the system, and extreme measures of control and repression may be needed to keep them there. The extent of these measures will depend on the alternatives open to the slaves. When, as in Haiti, the run-away worker has ample opportunities both to hide and to feed himself, the control measures will have to be strong.⁶⁸ Slave labor also requires control of the quantity and quality of labor supplied by the worker, unless this is easily inferred from some other variable, e.g. individual output.

There is, then, an extractionist trap in the fact that, in the longer run, the properties of the extractionist policy will give rise to problems that push total production and the amount appropriable by the state far below what it could have been under a more 'liberal' policy. Unfortunately, it is then, as we have argued above, not usually possible to revert to another kind of policy. If this was

achieved, the costs of the transition would almost certainly offset any initial gains from the extractionist policy.

As a final point, let us suppose that we have a benevolent ruler. Assume furthermore that to foster economic growth (with the welfare of all subjects in mind), it might be advantageous to temporarily transfer resources away from agriculture. Would it not be a good idea to use the extractionist model for a while, thereby increasing welfare for everybody in the long run? As should be clear from above, our answer is 'No' — for two reasons. First, the suffering during the extractionist phase will typically be too great. Secondly, the only way to leave the extractionist road may be through violent upheaval. This again would usually be too costly for the population.

At the same time, it is difficult to imagine any peaceful way out of the system. The oppressive bureaucracy and military have no interest in a major change of the system. In addition, the slightest tendency to liberalization would swell to a tidal wave, as it did in Haiti,⁶⁹ since everybody desperately wishes to get out of the system. Thus, it is questionable whether even a government with the welfare of people in mind would dare take such a step.

Notes

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1. It should be recognized that we have not tried to penetrate all of world history in order to substantiate our argumentation. To our minds the three examples chosen suffice to make the point.
2. Mörner, Fawaz de Viñuela and French (1982), p. 60.
3. For a general discussion of the use of comparison in history, see Grew (1980).
4. One must of course be careful when comparing economies so widely scattered in time and space. In particular, the mistake should not be made of wrongly endowing persons and groups in antiquity with 'modern' i.e. twentieth century, ways of thinking and behaving (cf. Finley (1979), pp. 17–27). However, the object of our study concerns basic characteristics of human behavior. Thus, the analogy between these different episodes in history carries a high degree of credibility.
5. Cf. Georgescu-Roegen (1971), Chapter 9, for a discussion.
6. Cf. e.g. Alchian and Demsetz (1972). For a specific reference to the Soviet case, see Bradley and Clark (1972).
7. Our presentation of the structure of the Ptolemaic economy is based on two major works on the subject: Préaux (1939) and Rostovtzeff (1941). We have also used the summaries in Préaux (1978) and Tarn and Griffith (1974).

The vast quantities of papyri that have been discovered give us an extraordinarily detailed picture of certain aspects of life in Ptolemaic Egypt. Compared to the rest of Greek antiquity we have a wealth of information, which is, however, limited in space and time. There exist considerable lacunae in the material (cf. Préaux (1978), pp. 358–59). For example, the papyri which are chiefly official documents come not from the capital Alexandria but from the provinces. Nevertheless the general results with respect to the Ptolemaic economy and its subsequent development seem quite firmly established.

Naturally, many changes took place during the three odd centuries of Ptolemaic rule. However, the basic structure of the economic system took shape under the first two rulers of the dynasty (Tarn and Griffith (1974), p. 187). It was the properties with which these rulers endowed the system that would lead to (some of) the problems encountered in later years. The description below thus refers to the Egyptian economy as it appears roughly in the first half of the third century B.C.

We need not concern ourselves with the degree of administrative decentralization embodied in the system (cf. Vidal-Naquet (1967)). Nor will we discuss the extent to which the peasants managed to deviate from the ordered plan (*ibid.*).

8. The Macedonian Ptolemy, one of the generals of Alexander the Great, founded a dynasty in Egypt which lasted till the Roman annexation of that country under Octavian (Augustus) which followed upon the battle of Actium in 31 B.C. and the suicide of Cleopatra VII.
9. It is not clear how much of their economic system the Ptolemies inherited from their Pharaonic predecessors. On the extent of the legacy from the Pharaohs the opinion is divided. (See Tarn and Griffith (1974), note 2, p. 178.) State control was not new to Egypt in the fourth century B.C. Nevertheless, the consensus opinion appears to be that the changes introduced by Soter and Philadelphus were extensive enough to make it permissible to discuss the Ptolemaic system as a separate entity. (See Tarn and Griffith (1974), pp. 178, 187, and Préaux (1978), p. 376.)

10. Tarn and Griffith (1974), p. 178.
11. Cf. North (1981), p. 21: '... a state is an organization with a comparative advantage in violence.'
12. Tarn and Griffith (1974), p. 179. Préaux (1978), pp. 373 and 376, emphasizes that the reason for adopting the system was fiscal — not economic efficiency. (Cf. also Rostovtzeff (1941), p. 291.) In other words, it was not conceived as a planned economy, but as an extraction economy. Soter and Philadelphus were simply interested in the continuous (and secure) appropriation of as much resources as they possibly could.
13. Tarn and Griffith (1974), p. 194. A famous figure is 14,800 talents as yearly income for Ptolemy Philadelphus (not very reliable according to Tarn and Griffith). From this (and some other data), Préaux (1978), pp. 364—65, estimates that the King appropriated 10,000—15,000 talents of a national income around 60,000. To this she adds Ptolemy's income in wheat (paid in kind), which was substantial. According to Rostovtzeff (1941), p. 1152, Ptolemy took around one third of the total grain production. (Préaux (1978), pp. 364—66, gives a lower figure.) The sum of 10,000—15,000 talents may be compared with the wage of a farm laborer; it corresponds to 500,000—750,000 yearly personal incomes of that group. Another point of comparison is the tribute to be paid by Carthage to Rome after the first Punic war (241 B.C.) — 3,200 talents within 20 years.

The treasure of Philadelphus was given by one ancient author as 740,000 talents. See also the discussion in Rostovtzeff (1941), pp. 407—10.

14. Tarn and Griffith (1974), p. 192.
15. For a short overview, see Préaux (1978), pp. 370—83, or Tarn and Griffith (1974), pp. 187—196. For a full treatment, see Préaux (1939) and Rostovtzeff (1941).
16. Naturally, there was no place for a land market in this system. Possibly the right to use land (not the land itself) could sometimes be sold or rented (Rostovtzeff (1941), p. 282). This was exceptional, however, and certainly could not take place with the plots cultivated by the royal peasants.
17. Préaux (1939), pp. 438 ff., Rostovtzeff (1941), pp. 277, 320. Tarn and Griffith (1974), p. 187, possibly refer to later times under the Ptolemies — otherwise they disagree on this point.
18. Rostovtzeff (1941), p. 320.
19. Tarn and Griffith (1974), pp. 192—93.
20. See Préaux (1939), pp. 65—93, Préaux (1978), p. 373, Rostovtzeff (1941), pp. 302—05, Tarn and Griffith (1974), pp. 190—92, for descriptions of the oil production and business.
21. Despite the extensive state control system described above, there was still some scope for individual enterprise (Rostovtzeff (1941), pp. 273—74). According to Préaux (1978), p. 371, there appears to have been free trade in wheat, after the sequestration of the King's due. However, this must be considered a minor exception from the rules of the system. (Cf. Tarn and Griffith (1974), p. 195: 'There was probably no such thing as independent trade in the home market.' See also Rostovtzeff (1941), p. 331.)
22. The following description of the Haitian economy during this period is based mainly on Lundahl (1984, 1985a, 1985b). For a short account of the system after the death of Dessalines, see Leyburn (1966), pp. 42—51.
23. For accounts of the Haitian revolution, see e.g. Stoddard (1914), James (1963), Ott (1973), Heintz and Heintz, Chapters 2—4, and Geggus (1982).
24. For an account of the indemnity and the later problems of indebtedness created by this indemnity, see Lundahl (1979), Chapter 8. Cf. also Lundahl (1985a).
25. Cf. Lundahl (1984), p. 82.
26. Cf. e.g. Lundahl (1985b), pp. 123—24.
27. For a short account of the class structure that emerged out of the Haitian revolution, see Lundahl (1979), pp. 319—26. The classic work on this problem is Leyburn (1966).

28. See Lundahl (1985b), pp. 134–35 and Lundahl (1984), pp. 83–86, for details.
29. According to official figures, the population fell with some 140,000 from 1789 to 1805. See Lundahl (1984), pp. 85–86.
30. The Haitian land reform is analyzed in Lundahl (1979), Chapter 6.
31. Lundahl (1984), p. 92.
32. *Ibid.*, p. 94.
33. Lundahl (1985b), p. 126.
34. Much of the capital equipment of the French plantations had been destroyed during the wars of liberation. An estimate made in 1803 indicated that in order to restore what had been lost, 95 million francs would have been needed (Lundahl (1984), p. 86). This, the Haitians never managed. Capital formation was rudimentary during the entire period we are discussing. (cf. Lundahl (1979), pp. 270–71.) Capital markets were virtually non-existent.
35. During the colonial period of course all administrators had been French.
36. For a short account of the sugar technology of the day, see Lundahl (1979), pp. 256–59.
37. Cf. Lundahl (1984, 1985b), *passim*.
38. The following section relies heavily on Hedlund (1984), Ch. 2, for the general events in agricultural development during the period, and on Hedlund (1983) for the more specific events of mass collectivization.
39. The scorn shown by Karl Marx for all things rural is an established fact, the most well known illustration of which is perhaps the passage about the ‘idiocy of rural life’ in the *Communist Manifesto* (Marx and Engels (1977), p. 40). This attitude marks development on the Russian/Soviet scene as well, where the debate on agriculture came to focus on the applicability of the general theory of Marx to the specific Russian context, rather than on the formulation of an operational policy. (Hussain and Tribe (1981).) See also the classic work by Mitrany (1951) on the agricultural legacy of Marx.
40. This is the conventional wisdom. Cf., however, Selyunin (1988), p. 166, who argues that it was government policy, notably the state monopoly on grain trade which was introduced only three days after the October 1917 *coup d'état*, that caused the famine and, by implication, the eventual collapse of war communism.
41. Quoted in Smolinsky (1966), p. 88.
42. See Erlich (1960) for the arguments presented in the great debate over industrialization that marked the Soviet 1920s.
43. There is considerable debate over what actually happened in this crucial period. Stalin's version was that agricultural marketing was falling because the peasants were increasing their own consumption. They were accused of purposely starving the army and the cities, and this was used as a rationale for a harsher policy. Stalin even presented a famous statistical table to back up his allegations. This table has later been shown to be grossly distorted (Karcz (1967)), and other stories have been told about what really happened. (See further Hedlund (1983).) These, however, need not concern us here, since it was the picture presented by Stalin that was accepted at the time, and thus influenced events to come.
44. See Taniuchi (1981) on this operation.
45. The *magnum opus* on the MTS is Miller (1970).
46. Miller (1966).
47. See further Hedlund (1989).
48. The exception to this is the continued existence of a ‘leakage’ to the free markets for food that exist in all cities, where the peasants can sell surpluses from the private plots.
49. Lundahl (1984), pp 98–99.
50. *Ibid.*, pp. 99–100.
51. Quoted by Davies (1980), p. 198.

52. Rostovtzeff (1941), p. 412.
53. *Ibid.*, p. 329.
54. The actual truth at this point may well be beyond reach. Millar's argument has been contested by Alec Nove, on methodological grounds, and by David Morrison on grounds that the data is of insufficient quality to draw any conclusion on which way the net flow of resources between industry and agriculture actually went during the crucial first five year plan. Moreover, according to the Soviet scholar who has presented the archival data that started the debate, no similar data exists for the crucial second five-year plan period. (Cf. Barsov (1968, 1969), Ellman (1975), Millar (1970, 1971, 1974), Morrison (1982), Nove (1971a, 1971b)).
55. That the *economic* rationale behind mass collectivization was of minor importance only is maintained by Wright (1979), p. 6, who argues that this was 'A sudden desperate lunge to extricate the leadership from a deep economic and political crisis, a crisis which was largely of its own making.'
56. In view of the historical comparisons made in this paper, it is striking to find a Soviet scholar writing about Ptolemaic agriculture during the Khrushchevian thaw of the early 1960s in a manner that could well have been a covert critique of Soviet *kolkhoz* agriculture. The author talks about how the peasants were forced to absorb 'the full impact of potential crop failures', how they were 'deprived of economic initiative', and how they were forced to 'sustain an enormous army of overseers who existed for the sole purpose of whipping out of them as much produce as possible'. Moreover, the economic crisis of the second century is seen to have originated in agriculture where the lack of interest on behalf of the producers was falling 'faster and more sharply than anything else'. (Sventsitskaya (1963), pp. 19, 21, 29.)
57. Lewin (1974), p. 318. Under Gorbachev's policy of *glasnost*, this realization has also become ubiquitous in Soviet sources.
58. Yanov (1984), p. 19.
59. *Ibid.*, pp. 21–22.
60. Lundahl (1985b), p. 126.
61. *Ibid.*, p. 135.
62. Lundahl (1984), p. 85.
63. Cf. Leyburn (1966), p. 51, Lundahl (1979), pp. 262–63.
64. For a detailed discussion of the causes of the redistribution of land, see Lundahl (1979), Chapter 6.
65. The importance of this argument depends *inter alia* on the geographical lay-out of the country, and on the communications situation. It may in fact carry less weight with respect to Egypt of the Ptolemies than Soviet Union of the twentieth century.
66. North (1981).
67. The Soviet government has learnt the hard way that collectivization very easily leads to disastrous results in agriculture (see, for example Hedlund (1984)). This is a common experience though it is not a necessary result (for further examples of problems, see Beresford (1985), and Hedlund (1985); the latter also presents one of the few 'success stories' in the field — the Israeli *kibbutz*).
68. The problem facing the Haitian rulers was that marginal land which could be used for subsistence cultivation was in infinitely elastic supply. (Cf. Lundahl (1985a) for an analysis.)
69. See Lundahl (1979), Chapter 6, for details regarding the aftermath of the 1809 land reform.

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