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NOTES AND COMMENTS

Comments on "Slavery in a Nonexport Economy"

I.

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When submitted to the organizers of an economic history conference in São Paulo, an earlier draft of the Martins' article was rejected on the grounds that it was only of regional, not national, importance.[1] The criticism could scarcely be less justified, and only confirms the Martins' assertion that scholars have tended to equate the slave system with the plantation and to neglect the analysis of other economic contexts in which the institution was significant. Without a doubt, the article is of unusual interest for challenging this bias in theory and research. The authors' painstaking and original work in a variety of published primary sources offers new insights and provocative conclusions.

Some of these conclusions I find convincing; others I do not. The Martins' evaluation of the size of the African slave trade to Minas from the late eighteenth to the mid-nineteenth centuries appears to be correct, and it is a major contribution. To be sure, one might question the accuracy of the population data on which they rely. The 1873 census in Minas was characterized by the provincial president as no more than a "trial run" (*ensaio*).[2] Still, the concurrent 1872–73 *matrícula* ("slave registration"), while yielding a total below that of the census, confirms that the slave population in Minas was very large, greater than that of any other province.[3] The information for the late eighteenth and early nineteenth centuries is probably less reliable. Nonetheless, even if the highest of the figures the Martins cite were only 50 percent of the real population, Minas would

1. Personal communication from Roberto Martins.
2. Minas Gerais (Province), *Relatório [Presidencial]*, Sept. 9, 1873, p. 13.
3. On the *matrícula* and the other published data for the study of population movements in the 1870s and 1880s, see this author's "O que Rui Barbosa *não* Queimou: Novas Fontes para o Estudo da Escravidão no Século XIX," *Estudos Econômicos* (São Paulo) (Mar. 1983).

have had about the same number of slaves at the beginning of the period under study as in 1873. Unless slave births equalled or exceeded deaths—which is not likely, given the evidence from other areas and periods—this would still imply at least a moderate importation of slaves during the nineteenth century. It would also point to an extraordinary influx of bondsmen during the preceding century, which would pose another problem needing explanation. It is hard to escape the conclusion that Minas was unusual in the nineteenth century, either in the enthusiasm of its free people for slaves, or in the vital rates of its bondsmen.

There is additional evidence, however, that supports the Martins' case. Recent studies of the 1804 slave population of several Mineiro townships, most of them former mining centers, have found that a substantial proportion of bondsmen were Africans. High masculinity ratios among young adults and age pyramids with a small base and an unusual concentration of people in their twenties and thirties were also common—clear evidence of a sizable *recent* importation of slaves.[4] At the other end of the period under study, the 1872 census data on bondsmen of African origin likewise point to a strong Mineiro part in the slave trade. At that time, 20 percent of African slaves were in Minas, compared to 41 percent in Rio de Janeiro and 9 percent in São Paulo.[5] There is considerable question whether all African slaves were registered as non-Brazilians, but there is no reason to believe that the degree of undercounting varied greatly from province to province. More problematic is that these are data from the summary provincial tables, which, the Martins caution, may contain serious errors of addition. Still, the 1872 information is roughly in accord with other data on the distribution of Africans brought to Brazil in the nineteenth century, which argues in favor of its reliability. According to the census, 87 percent of African slaves were concentrated in the provinces of the Southeast, South, and West. D. Eltis's study of the transatlantic trade indicates that 73 percent of Africans who entered Brazil between 1821 and 1843 landed south of Bahia.[6] The higher figure for 1872 is consistent with the especially intense movement of slaves to the Southeast in the late 1830s and 1840s

4. Iraci del Nero da Costa, *Vila Rica: Populção (1719-1826)* (São Paulo, 1979), and *Populações Mineiras* (São Paulo, 1981); Francisco Vidal Luna, *Minas Gerais: Escravos e Senhores* (São Paulo, 1981).

5. *Recenseamento da População do Imperio do Brazil a que se Procedeu no Dia 1° de Agosto de 1872*, 22 vols. (Rio de Janeiro, 1873-76), provincial data in national tables. Data on African freedmen could not be analyzed at this time; however, the distribution of these people appears to be similar to that of African slaves.

6. My calculations, from the graphs in D. Eltis, "The Direction and Fluctuation of the Transatlantic Slave Trade, 1821-1843: A Revision of the 1845 Parliamentary Paper," in Henry A. Gemery and Jan Hogendorn, eds., *The Uncommon Market: Essays in the Economic History of the Atlantic Slave Trade* (New York, 1979), pp. 272-301.

and with the subsequent transfer of many Africans to the coffee areas from the North and Northeast through the internal slave trade. The 1872 data do not support the Martins' conclusion that more Africans were brought to Minas than to Rio; nonetheless, 20 percent of all slaves who entered Brazil between 1819 and 1850 is 219,000, an average of about 7,000 per year, which is in accord with the Martins' middle-range estimates of imports to Minas for this period.[7]

Could the Mineiro economy have paid for so many slaves? The Martins' data on the per capita value of "exports," or goods shipped out of the province (see their Table XIII), along with Stanley Stein's series of slave prices in Vassouras, in Rio province, provide a tentative answer to this question. If we calculate the total value of Mineiro exports for 1822, 1836, and 1850, and compare the results with the cost of 7,000 slaves at Vassouras prices in the same years, we find that the bill for bondsmen equals, respectively, 52, 77, and 70 percent of the value of exports.[8] Slave prices in Minas, of course, would have been higher than in Vassouras because of extra transportation and factor costs. At the same time, however, as I will show later, the data on Mineiro exports are probably underreported. Thus, the percentages I have calculated may not be unreasonable. What this exercise suggests is that it would not have been impossible for Minas to import large numbers of Africans, but that the cost of doing so would have been much higher, relative to the value of exports, than it was in the rest of Brazil. (Recently, Luiz Felipe de Alencastro has estimated that between 1841 and 1849 the cost of slave imports to the whole country equalled about 34 percent of the total value of its exports abroad.)[9] This latter conclusion, however, is consistent with the Martins' portrayal of Minas as a relatively self-sufficient economy. After buying their slaves, Mineiros would have had the wherewithal to import little else.

The Martins, in a sense, have done for Minas what Eltis did for the rest of Brazil outside the Southeast. Before Eltis's revision of the estimates of the British Parliamentary Paper of 1845, it appeared that the African trade to Brazil in the nineteenth century was firmly wed to the expansion of coffee culture; after all, the British figures showed that between 1819 and

7. Calculated from a total of 1,096,000, based on estimates by Philip Curtin, *The Atlantic Slave Trade: A Census* (Madison, 1969), p. 234, and Eltis's revision of Curtin's figures for 1821–43.

8. Stanley J. Stein, *Vassouras: A Brazilian Coffee County* (Cambridge, Mass., 1957), p. 229. Stein's data begin in 1822. I calculated total exports for 1819 and 1854 from per capita exports and total population (estimating the population for 1854 from the census data of 1819 and 1873, assuming a constant rate of growth over this period). I then calculated the export totals for 1822, 1836, and 1850, again assuming a uniform rate of growth.

9. Luiz Felipe de Alencastro, "La traite négrière et l'unité nationale brésilienne." *Revue Française d'Histoire d'Outre-Mer*, 60:244–245 (1979), 396–419.

1843, 85 percent of Africans in ships with destination known landed south of Bahia (all but 1 percent in Rio and São Paulo). Eltis's estimate, cited above, brings this figure down considerably. In sum, Eltis brought about a partial estrangement of the African trade from coffee. Still, it could be argued that those Africans who did not go to Rio and São Paulo went primarily to the sugar-producing areas of the Northeast and North. It remained for the Martins to break the necessary union between the slave trade and the export economy.

Does this case of Minas actually imply this divorce? And if so, does it really confirm the marriage between slavery and free land? The answer to the first question is complicated by the fact that the Martins, at crucial points in their argument, adopt an unusual definition of "export economy." They imply at times that an export economy is one in which a large percentage of workers is directly engaged in the production of items for sale to other economies.

The problem with this definition is especially apparent in their discussion of the 1870s and 1880s. They write that "the role of the coffee industry [in the Mineiro economy] was a relatively minor one, even in the final decades of slavery"—and indeed, their Table VII seems to confirm this, since it shows that only 5.6 percent of bondsmen in the province worked in coffee production. I have no quibble with the accuracy of the figures in the table, based as they are on data gathered during the 1880s by C. F. Van Delden Laërne, an unusually acute student of the coffee industry.[10] Nonetheless, it is important to note that Laërne's productivity estimates for slaves are based on the total number of bondsmen on the plantations he studied, not just the number of fieldworkers. Should the slave muleteers, carpenters, and cooks on these plantations, people who are included in Laërne's figures, be considered by the Martins as slaves "in coffee"? Of course. But what about the bondsmen of neighboring farmers who do not grow this crop, but who raise hogs, corn, and beans to supply the fazendas and their attendant towns? Clearly, these slaves should also be considered as working "in coffee," at least in the present context. If we were debating the degree to which properties using slave labor were specialized in the production of coffee, the data in Table VII would be extremely relevant; the Martins make an important contribution in noting the striking difference in this respect between the Rio de Janeiro coffee region and those of Minas and São Paulo. But the question at issue is a different one: what was the "dynamic center" of the slave economy, the productive activity that

10. C. F. Van Delden Laërne, *Brazil and Java* (London, 1885), pp. 218–223, 328–329, 334–335.

determined to a large extent the demand for goods and the employment of bondsmen?[11]

There can be little doubt that coffee culture in the 1870s and 1880s was the dynamic center of the economy of the Zona da Mata, virtually coterminous with the Minas "coffee region." The Mata in 1873 included 26 percent of Minas slaves, and by the mid-1880s had 35 percent. Let this serve as a plea for characterizing Minas during this period as at least one-fourth to one-third of a coffee province.[12] In fact, the impact of coffee on the provincial economy was considerably more than these percentages suggest, since the combined demand of the coffee areas of Rio, São Paulo, and the Zona da Mata, including their urban centers, must have had an effect on the structure of slave employment in other parts of Minas.

This demand is well documented. The plantation areas consumed Mineiro livestock, cheese, bacon, and other food products, and large amounts of Mineiro cottons for making slave clothing and sacks for transporting coffee.[13] The Corte (the city of Rio de Janeiro and its environs), with 266,000 people at mid-century, was also a large market for Minas's exports. Indeed, this was the case even before the coffee boom. Alcir Lenharo has documented the importance of the Sul de Minas as a major supplier of livestock and other foodstuffs to the city of Rio in the early nineteenth century. According to this author, many Mineiro ranches in the Sul used slaves in large numbers, and were clearly commercial enterprises, orienting the bulk of their production for the market. Their proprietors developed strong commercial and political ties to the Corte, to such an extent that they were the major landed interest group behind the Moderados, the party that rose to power in 1831 upon the abdication of Pedro I.[14] The Sul's

11. "Dynamic center" is Celso Furtado's phrase; see Furtado, *The Economic Growth of Brazil* (Berkeley, 1971), especially chap. 36.

12. Actually, the Martins raise a false issue here, since historians who call Minas a "coffee province" do so because of its large coffee exports, not because of assumptions about the role of this crop within the Mineiro economy. It is worth noting also that slavery scholars have long been aware of the relative distribution of slaves within Minas; no one suggests that during the nineteenth century slaves were transferred en masse from the former mining areas to the coffee zones. Likewise, although Furtado argues that slaves from the mining regions were of major importance in providing plantation labor early in the coffee boom, I know of no specialists in slavery who repeat this lapse.

13. See Stein, *Vassouras*, p. 180, on cottons. According to a Vassouras plantation owner in 1852, the fazendas "do not raise hogs but almost always buy them in large quantities from the Mineiro merchants, in order to prepare the bacon with which they flavor the food of the family and the slaves." (Cartório do Primeiro Ofício de Vassouras, Inventário, 1850 [deceased: Fernando Luiz dos Santos Werneck], fol. 478.) See also Ernesto Zaluar's description of trade from Northwestern São Paulo, the Triângulo Mineiro, and beyond to central-western São Paulo, in *Peregrinação pela Província de S. Paulo (1860-61)* (São Paulo, 1953), pp. 137-138.

14. Alcir Lenharo, *As Tropas da Moderação: O Abastecimento da Corte na Formação Política do Brasil, 1808-1842* (São Paulo, 1979).

production for the urban market may also have been production for export to other countries; between 1804 and 1811, dried hides and other leather products constituted almost a fourth of the capital's exports, by value.[15] In any case, even at this time the dynamic center of the city's economy, the factor that made it a major market for the Sul's products, was the export trade abroad. Between 1796 and 1811, well before the coffee boom, the port of Rio accounted for one-third of the value of Brazil's exports.[16]

These considerations, however, would appear to mean nothing in view of the data in the Martins' Table XII on the value of exports per capita (exports again defined as goods shipped out of a province) in 1869–73. The parts of Minas outside the coffee zone appear to export virtually nothing, relative to the size of their population, when they are compared to other areas in Brazil. I have reservations, however, about the accuracy of these data. First, it appears that the Mineiro estimates are based on official statistics collected at stations on the borders of the province where "export" taxes were charged. The data for the other provinces, however, refer to goods shipped from the ports. This difference creates problems for comparison; as the inspector of the Treasury of Bahia noted in 1876, the slave export tax "suffers a great reduction in the interior of the province," since slave dealers headed for Rio and São Paulo could more easily evade the fiscal agents when they traveled by land than when they dispatched bondsmen by sea.[17] I suspect that Mineiro muleteers carrying goods for Rio and São Paulo were as resourceful as the Bahian slave merchants in avoiding taxes. A second caveat about the data is that they catch Minas at a time when its noncoffee export sector was economically depressed, relative to its level at the beginning of the century. As the Martins note, the real value of noncoffee exports, in per capita terms, fell dramatically between 1819 and 1873. Thus, the table does not permit generalizations about the Mineiro economy in an earlier period.

The most telling criticism of this table, however, is that it does not directly address the question at issue. Given Minas's large slave population and its apparently very low per capita and per-slave exports, the implications of the table seem to be: (1) that the value of the product of the slave sector for consumption in the household or for sale within Minas was much greater than that for export; and (2) that slaves were concentrated largely in activities oriented toward subsistence and the internal market. Even if these conclusions were correct, however, it would not necessarily

15. José Jobson de A. Arruda, *O Brasil no Comércio Colonial* (São Paulo, 1980), p. 181.

16. Ibid., p. 146.

17. Bahia (Province), *Relatório [do Inspetor da Tesouraria Provincial]*, 1876, p. 11. See Lenharo, *As Tropas*, pp. 58–59, on export-tax evasion in Minas in the eighteenth century.

follow that the export sector was of little importance, or indeed, that it was not the dynamic center of the Mineiro economy. Once again, what is important in this context is not the percentage of slaves engaged directly in production for export; nor is the crucial issue the value of the export product relative to that of the domestic product. To measure the role of the export sector in the Mineiro economy, we need to be able to trace the linkages between this sector and production for the internal market.

The Martins, for example, show that in 1873 a large number of free people, although relatively few slaves, were employed directly in the Mineiro textile industry. I have some questions about these data; since this was a cottage industry, it is quite possible that many slave women registered in the census as domestic servants were actually full- or part-time seamstresses. In any case, the Martins' own research indicates that cotton exports were responsible for a significant part of the employment of textile workers, particularly of those who produced cloth for the market. This export sector, in turn, had an impact on the internal economy. The people in it needed to eat, and probably purchased at least part of their food. Furthermore, the transportation of cotton goods to the coffee regions gave employment to muleteers, free and slave, who in turn stimulated the domestic market for corn, horseshoes, nails—and also cottons. The production of cheese, livestock, and bacon for the coffee areas and their urban centers had similar primary and secondary linkages to the domestic economy, increasing the demand for foodstuffs, hardware, and cottons, and stimulating employment in these sectors and in transportation, which in turn gave an additional impetus to the market for agricultural and manufactured goods. And then there were tertiary linkages; the supplying of the muleteers and hog and cattle drivers in the export sector and the provisioning of the farmers that raised foodstuffs for these workers, created more jobs in transportation, which further stimulated domestic demand.

Without research in local archives, we can only speculate about the linkages and multiplier effects of the export economy in Minas. Whatever the eventual results of this research, however, neither abundant land—undoubtedly important in this case—nor export linkages, nor a vigorous domestic market, nor all of these together, would have been sufficient to explain the dynamics of the Mineiro slave system before 1850. These factors could only have been responsible for the demand for slaves; and this demand would not have produced a large influx of bondsmen had it not been for the peculiar characteristics of African supply.

More than 1.5 million Africans entered Brazil between 1801 and 1850; at the extremities of this period the entire Brazilian population was only 3.3 and 7.2 million. During the course of these years, Brazilians bid up the price of bondsmen (or the cost of enslaving Africans increased), but there is every indication that the slave supply curve was relatively "flat" compared to what it was after 1850; that is, even a large increase in demand had a relatively minor effect on slave prices. Brazilian coffee and sugar exports expanded rapidly during the period and contemporary accounts indicate that the return on investments in slave labor in coffee were very large. Profits may have been lower in other activities, but the important thing is that plantation owners, given the conditions of African supply, did not bid all other potential buyers of slaves out of the market. The Martins' findings are consistent with other peculiarities of Brazilian slavery during the period, as revealed by recent research: the extraordinary concentration of slaves in the Corte at mid-century (about 110,000); the participation of bondsmen in the cattle industry of the northeastern backlands, from which traditional historiography had excluded them; Lenharo's findings about the use of slaves in the Sul de Minas; and Stuart Schwartz's conclusion that throughout Brazil the average slaveholding tended to be small, and that slaveownership was widely distributed among the free population.[18] In short, Brazilians before 1850 faced a situation not only of free land, but also of abundant slave labor, accessible to many people who did not have the capital to be planters. Seen in this context, Minas was not the exception, but the rule.

With the end of the African trade, the supply of bondsmen was suddenly restricted. What apparently had been a national market (with slave prices near the coast virtually everywhere the same) became fragmented into various regional or provincial markets, reflecting local conditions of slave supply and demand as well as the impingement of conditions elsewhere.[19] Significant price differentials appeared among markets, and an

18. Mary Karasch, "Slave Life in Rio de Janeiro, 1808–1850" (Ph.D. Diss., University of Wisconsin, 1972); Luiz Mott, "Estrutura Demográfica das Fazendas de Gado do Piaui Colonial: Um Caso de Povoamento Rural Centrífugo," *Ciência e Cultura*, 30 (1979), 1196–1210; Stuart B. Schwartz, "Patterns of Slaveholding in the Americas: New Evidence from Brazil," *American Historical Review*, 87 (Feb. 1982), 55–86.

19. Slave price series for the pre-1850 period exist only for Vassouras (Stein, *Vassouras*, p. 229) and the city of Bahia (Maria José de Souza Andrade, "A Mão de Obra Escrava em Salvador de 1811 a 1860. Um Estudo de História Quantitativa" [M.A. Thesis, Universidade Federal da Bahia, 1975], statistical appendix; I have averaged Andrade's prices for African and Brazilian male and female "moços" to compare with Stein's data.) The two series, however, are virtually identical from the earliest point of comparison in 1822 to the early 1840s, diverging only after that; thus, the change pointed to here may have begun somewhat before the end of the African trade. After 1850, slave prices in Bahia and Pernambuco were quite different from those in the Southeast, responding to changes in sugar prices rather than coffee prices. Pedro Carvalho de Mello and Robert W. Slenes, "Análise Econômica da Escravidão no Brasil," in Paulo Neuhaus, ed., *Economia Brasileira: Uma Visão Histórica*" (Rio de Janeiro, 1980), pp. 99–100. The coincidence of prices before the early 1840s may be explained by the ability of slave merchants to shop freely in the available African markets and sell freely within Brazil, without incurring markedly different transportation costs. Thus, African

internal slave trade resulted. Other things being equal, one might expect that this situation of rising prices and the appearance of price differentials were closely tied to the returns that could be made on slave labor. In this case, the transfer of bondsmen would have been out of activities oriented toward the maintenance of the household (subsistence agriculture and domestic service) and into the commercial sector, particularly into those industries that were able to bid the highest for slave labor (presumably, in this case, export agriculture). The large internal slave trade after 1850 directed toward the coffee plantations, and the Martins' data on the growing concentration of slaves in the plantation zones of the Southeast between 1873 and the mid-1880s, are consistent with this expectation. Nonetheless, other things in the slave market were not equal, since local slave supply-and-demand curves were determined not only by the possibilities for the commercial use of bondsmen but also by the availability of free labor as a substitute. As in the United States South, this consideration probably explains in part the more rapid decline of slavery in the Corte and in cities in general, where a free labor market existed, than in rural areas of the country, where Wakefield's principles tended to hold sway.[20] What the Martins argue, in effect, is that in Minas, outside the Mata, the Wakefield factor was so strong that it compensated for the limited possibilities for the commercial use of forced labor and kept the demand for slaves so "inelastic" that large transfers of bondsmen to the coffee regions did not take place.

In support of this argument, the Martins attempt to estimate migration flows into and out of Minas, and also within the province. Their information for the 1850–70 period is sparse, but merits two comments. First, I would not place much confidence in the 1872 census data on the provincial origins of slaves. My research on the manuscript slave *matrícula* lists in Campinas, São Paulo, shows that "out-of-province" slaves were much more common in that *município* than the census parish tables indicate.[21] While it is true

supply and Brazilian demand summed, respectively, into national supply-and-demand curves. After mid-century, factor and transportation costs often provided a buffer between markets, conserving to a considerable extent their independence. In this respect, Brazil differed from the American South, where regional slave prices, despite the existence of differentials, moved approximately in tandem and responded essentially to cotton prices. See Ulrich B. Phillips, *Life and Labor in the Old South* (Boston, 1941), p. 177.

20. Claudia Goldin, *Urban Slavery in the South, 1820–1860* (Chicago, 1976), argues that the demand for slave labor was more elastic in North American cities than in the countryside. Gavin Wright, *The Political Economy of the Cotton South: Households, Markets, and Wealth in the Nineteenth Century* (New York, 1978), chap. 4, explains Goldin's results in terms similar to those of Wakefield.

21. The following discussion is based on Slenes, "The Demography and Economics of Brazilian Slavery: 1850–1888" (Ph.D. Diss., Stanford University, 1976). The conclusion regarding slave origins is based on research in progress on a much larger sample of slave *matrícula* lists than that which I analyzed in my dissertation.

that few Mineiro slaves were present in Campinas in 1872–73 or were sold in that *município* in the 1860s and 1870s, the true test of the Martins' argument will come from local research in the Rio coffee areas, and especially in the Zona da Mata, markets that were closer to the interior of Minas and more likely to have received slaves sold from this region. Second, a small outflow of bondsmen to the coffee areas of Rio during this period would not be unduly surprising, since there were strong limits to the prices that planters were willing to pay for slaves (limits set by relatively worn-out land, low coffee prices, and high transportation costs), while at the same time there was a large pool of slave labor not yet engaged in export agriculture close at hand. (Significantly, a majority of the slaves sold in Campinas during the 1860s was from Rio, São Paulo, and the Corte.) I would expect that migration within Minas to the Zona da Mata was substantial during the 1850s and 1860s, but at present there are no data available to test this hypothesis.

It is with respect to the 1870s, however, that the Martins' argument, if correct, would be truly surprising. From the late 1860s on, a rise in coffee prices and the construction of railroads in Rio and São Paulo substantially increased the demand for, and the price of, slaves in the coffee zones. At the same time, the drastic fall of sugar prices in the Northeast, the terrible drought in certain provinces in that region at the end of the 1870s and the decline of the *charque* (beef jerky) industry in Rio Grande do Sul dramatically lowered slave prices in many areas outside the Southeast. The result, in Rio and São Paulo, was a considerable expansion of the slave market and an even larger increase in the trade in bondsmen from other parts of Brazil. The profile of the Campinas market changed radically; a relatively small proportion of slaves sold during the 1870s came from within the Southeast. The weakening of slavery in the Northeast and far South probably kept slave prices in the coffee zones from increasing more than they did, and thus reduced the effect of planter demand on the Mineiro slave market. Still, if the planters were now buying more slaves and paying higher prices for them, and if coffee was expanding rapidly in the Mata and São Paulo, why were the noncoffee regions of Minas not more affected?

A closer look at the Martins' migration estimates for the 1870s (Table X) suggests that, in fact, the impact on some of these regions was considerable. Elsewhere, I have calculated the net slave transfers of the Brazilian provinces between 1872–73 and 1886–87, using a method similar to that of the Martins. Since the markets of the Southeast became closed in 1880–81, these estimates may be used as approximations of the transfers that took place before the 1880s and may be set beside the Martins' data for the Mineiro regions for the same period. The comparison shows that the areas in Minas that had negative net transfers of slaves were among the largest exporters of bondsmen in the nation. The Metalúrgica-Mantiqueira, the Alto Paranaíba, and Paracatu lost slaves at about the same high rate as the drought-stricken province of Paraíba in the Northeast or the Corte. In absolute terms, the loss of bondsmen from the Metalúrgica-Mantiqueira, the heartland of the former mining regions, was considerably larger than that of any province.[22] In sum, the Martins have not overturned the view, common in the literature, that the old mining areas tended to be large net exporters of slaves.

On the other hand, the Martins show convincingly that not just the Mata but several noncoffee regions in Minas were substantial net importers of bondsmen. Indeed, it would appear that by the 1870s there were two "slave systems" in the province, one in disintegration, the other still in expansion. Since abundant land presumably existed in both, we must look to other factors for an explanation for their differences. The Martins apply contingency analysis to their data on migration and conclude that coffee culture cannot provide this explanation. I question, however, whether contingency analysis is the appropriate statistical tool. It treats net migration as a dichotomous variable (population transfers are either positive or negative) and thus gives the same weight to a *município* importing 2,000 people as to one with a gain of two. In addition, it classifies *municípios* as coffee growers or non-coffee growers, and as a result is insensitive to all but the most direct involvement of a county in the export economy. The Martins' own data, in Table X, show that the Mata, where coffee was the dynamic center of the economy, accounted for 61 percent of the net influx of slaves to regions that gained bondsmen during this period. And what of the remaining 39 percent? While coffee was not grown in significant amounts in the Sul, Oeste, and Triângulo, it was nonetheless expanding rapidly in northwestern São Paulo and reaching lands not far from the borders of these regions. I think it likely that it was the strengthening of

22. The provincial estimates are in Ibid., pp. 616–617. Like the Martins' figures, they were obtained using the global intercensal survival method, modified to take into account the effects of manumission, for which data existed at the provincial level. Combining my estimates with those of the Martins, the eight geographical units that suffered the largest losses of bondsmen (expressed as a percentage of their 1872–73 slave population) are the following: Ceará (−28.4%), Rio Grande do Norte (−25.1), *Alto Paranaíba* (−22.0), Corte (−20.0), *Paracatu* (−19.7), Paraíba (−18.5), *Metalúrgica-Mantiqueira* (−18.3), Rio Grande do Sul (−13.5). In absolute terms, the largest exporting province was Rio Grande do Sul, which showed a net loss of about 11,200 bondsmen, compared to the Metalúrgica-Mantiqueira's 17,500. It should be noted that after 1880–81, slave migration may have continued within or between regions outside the Southeast. If so, it was most likely directed from provinces that lost a relatively large proportion of their slaves in the 1870s to those that lost a small percentage, or had a net gain; that is, the percentages given here may exaggerate the degree of decline of the large exporting provinces during the 1870s, in which case the Mineiro regions would rank even higher as net losers of bondsmen.

traditional linkages with the Paulista coffee zones (or, in the case of the Sul, the persistence of ties with the national capital)[23] that accounts for a considerable part of the movement of bondsmen to these regions. This explanation will not do for the case of the Jequitinhona-Mucuri-Doce. (The Martins' data show that this area was an importer of bondsmen—with a positive net transfer equal to 8.9 percent of its 1873 slave population—not an exporter, as they indicate by mistake in their table.) Still, it may be that linkages with the Bahian sugar economy, which Lenharo notes existed earlier in the century, accounted for migration to this area. In the regions that lost slaves, on the other hand, I suspect that population transfers were caused by the weakening of export linkages: the decline of the Mineiro cottage textile industry, concentrated to a considerable extent in the Metalúrgica-Mantiqueira, and the loss of markets in Rio and São Paulo to the Mata and the other Mineiro regions bordering on these provinces.

This interpretation suggests that Mineiro slavery ultimately was part of the plantation complex. If so, the Minas case would no longer appear paradoxical, but it would not cease to be surprising. Most historians, myself included, have assumed that agricultural enterprises not oriented toward the foreign market were at a strong disadvantage in the competition for slave labor, at least after 1850. The Martins' findings, however, that as late as 1873 most slaves in the São Paulo and Mata plantation zones were not "in coffee," and that slavery in much of Minas was still an expanding institution, suggest that this model of the slave labor market is too simplistic. I agree with the Martins that one key to resolving the problem is the availability of abundant land and the consequent inexistence of a free labor market, which must have caused nonplanters in Minas and elsewhere to remain attached to slavery longer than they would have otherwise. But this explanation is not sufficient. A second key may be the sharp rise in food prices that occurred throughout Brazil in the 1850s and that, judging from Stein's data, in the Rio zone more or less paralleled the increase in the price of bondsmen.[24] While in the coffee areas this development may have been provoked in part by the inflation of slave prices and the more intensive use of plantation slaves in export agriculture that seems to have occurred as a result, it may also have protected masters in the Southeast who used bondsmen to produce for the internal market. A third key may be Gavin Wright's theoretical model of peasant behavior within a context

23. Lenharo, *As Tropas*, pp. 92–93, cites evidence from the 1860s that suggests that these ties continued.

24. Relative in each case to a base price index of 100 in 1850–51, slave prices in Vassouras in 1860–61 equalled 257, Vassouras retail food prices in the same year equalled 401, and wholesale food prices in the Corte in 1858–59 were 219. Stein, *Vassouras*, unweighted averages of the indices for foodstuffs on p. 49, and p. 229.

of abundant land and lack of free workers for hire. In this situation, according to Wright, peasants face severe labor constraints to the expansion of their output, and tend, for good economic reasons, to look first to their own subsistence, sending only what exceeds this to the market.[25] The mechanization of agriculture, combined with good river systems and then railroads, permitted the family farm in the American Middle West to overcome these constraints and produce a large surplus for the cities of the South and East. This did not happen in Brazil, where, if Wright's argument is applicable, most free peasants probably continued for some time after 1850 to produce relatively little for the market. To put this another way, the rise in food prices after 1850 may have been caused primarily by the increase in slave labor costs to the nonpeasant sector that produced food for sale. Thus, not only might the Wakefield hypothesis explain the lack of alternative labor, which gave nonplanters in Brazil a reason to cling to slavery, but also the commercial possibilities that existed for slaveowners in the production of foodstuffs, which I suspect ultimately made this unwillingness to "let go" economically viable.

I have taken issue with the Martins on a number of points. Nonetheless, thanks to their work, the historian's view of nineteenth-century Minas has changed significantly. Whatever the combination in Minas of export linkages, abundant land, and local markets, we are no longer looking at an economy that was stagnant and of no significance to the rest of Brazil. In calling attention to the size and dynamic nature of Mineiro slavery, the Martins complement the research of Karasch, Lenharo, Mott, and Schwartz, and, along with these authors, point to the importance of forced labor in activities not directly oriented toward production for foreign markets. The agenda for future research is clear; to understand Brazilian slavery and resolve the questions now at issue, we need more local studies and less emphasis on the plantation.

25. Wright, *The Political Economy*, chap. 3.