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THE OTTOMAN TAHİR DEFTERLERİ
AND AGRICULTURAL PRODUCTIVITY

The Case for Northern Syria

Margaret L. Venzke

Forty years have passed since the 'international debut' of the Ottoman tahrir defterleri (provincial tax registers) in the early 1950s, a debut marked by the first publications, in a western language, of Ömer Lütfi Barkan's pioneering studies using this source. This debut closely followed the appearance of Fernand Braudel's seminal La Méditerranée et le monde méditerranéen à l'époque de Philippe II, first published in 1949, which raised to ever-greater heights the standard of the Annales school and inspired, at the same time, a new generation of Ottoman historians. From this time on was forged the link between investigations into the Ottoman tahrir defterleri and the Annales' approach to history. Braudel acknowledged the research potential of the Ottoman tahrir defterleri in the second edition of his Méditerranée, in 1966, as a result of his contact with the work of Barkan, who would become the doyen of Ottoman

1 This 'coincidence' in the publication dates of Braudel's Méditerranée and the articles of Barkan has also been noted recently by Colin Heywood, in 'CRITICAL STUDIES Between historical myth and mythohistory: the limits of Ottoman history, Byzantine and Modern Greek Studies 12 (1985), pp. 337-38. Note that Barkan's studies (in Turkish) using the Ottoman tahrirs go back to the late 1930s, and they appeared with some frequency throughout the 1940s, before his 'international debut' in the 1950s. For the corpus of Barkan's work, see the bibliographies of Amon Cohen and Bernard Lewis, Population and Revenue in the Towns of Palestine in the Sixteenth Century (Princeton, c. 1978), pp. 174 and 178-79, and Suraiya Faroqhi, Towns and Townsmen of Ottoman Anatolia: Trade, crafts and food production in an urban setting, 1520-1650 (Cambridge, London, New York, et al., 1984), pp. 392-93. It should also be noted that, in the same time period as Barkan's 'debut,' Bernard Lewis published a series of articles that underscored the significance of the Ottoman tahrirs to the history of the Arab provinces. These articles are cited in Heywood, "Critical Studies," n. 79, p. 338.

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historians of the *Annales* school of his generation. Braudel reckoned that this source held a key to the demographic history of the eastern Mediterranean in the 16th century.\(^2\) Since their international debut, quite a few scholars, working individually, have explored these *tahrir* registers for selected parameters, limited, for example, to a particular *sanjaq* (the basic administrative division within the Ottoman provinces, often of great territorial expanse; several *sanjaqs* would comprise a province), or to one line of inquiry, or to one register alone. The length of these registers, which may number a thousand pages, as it is the case for many of the registers for Ottoman Syria, can present a daunting task for research, and indeed, it necessitates both a well-thought-out methodology and a strict limitation to be imposed on the focus of investigation. Quite simply, the 'size' of the *tahrir* registers adversely affects the scholarly endeavor.

In the same time period as the *tahrir* registers began to be exploited, computer technology developed that today offers Ottoman scholars the opportunity to break through the narrow confines, within which the registers to this very day continue to be mined, to obtain not only a broader picture, but also to complete, as far as these registers allow us, the basic foundation for the economic life, land/taxation system, and institutions of the Ottoman provinces in the 16th century, when these registers were in their heyday. This opportunity obviously prompts the question of why not enlist the computer to exploit the *tahrir* registers in a more systematic and comprehensive manner. Can not a team of scholars, for example, undertake today a study of the economic or demographic history of the eastern Mediterranean in the 16th century, as Braudel had held out expectations? The possibilities for a greater exploitation of the Ottoman *tahrir* registers was the focus of an international conference held in Konya, Turkey, October 26-28, 1992, at which a part of this article was first presented, and of a second conference held in Erlangen, Germany, March 17-19, 1994.\(^3\) This article addresses itself to that question by focusing on the research potential of the Ottoman *tahrir* registers for a study of agricultural productivity in northern Syria, as it was delimited by the Ottoman *Sanjaq* of Aleppo, in the 16th century. This focus also would naturally fall within the broader purview of that hoped-

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3 The author would like to express her appreciation to Professors Nejat Göyüoç and W.-D. Hütteroth, the sponsors of these two conferences, for their kind invitation and the expenses paid, and for the most interesting exchange that took place at these conferences. It is most important to note that a computer program for the utilization of the data of the *tahrir defterleri* was developed by Professor Arno Kleber, of the University of Bayreuth, at the direction of Professors Göyüoç and Hütteroth, and is available to all interested researchers of the *tahrir defterleri*. 
for study of the economic history of the eastern Mediterranean. For the comparative dimension, reference will be made, in this article, to the sanjaqs of Homs and Hamah in central Syria, which, by the mid-16th-century, were incorporated into the Province of Aleppo, and to the sanjaqs of Damascus, in southern Syria, and Tripoli, on the Mediterranean coast of central Syria. Aleppo, Damascus, and Tripoli, alike, became ‘pasha’ sanjaqs, representing the governmental seats of the three great provinces, of the same name, of Ottoman Syria in the 16th century. This article also has an ulterior objective, and that is simply to indicate something of both the problems and the potential of the tahrirs.

The use of the Ottoman tahrir registers for the question of agricultural productivity is a much more complicated matter than it might appear to be on first consideration. Before adumbrating some of this complication, it might be useful to indicate, in advance, the general outline of the conclusions reached on this matter. Although the author would readily welcome the idea of a collaborative effort by a team of scholars to establish a common methodology, to use a common computer program, and to coordinate its collective results to produce comprehensive findings for an area as great as the eastern Mediterranean, it will prove to be, she believes, a far more difficult task to achieve, producing valid results, than perhaps now imagined. This guarded assessment springs from a recognition of the fact that, even within a clearly-delimited area, the one sanjaq, quite a few internal problems will be encountered that, in the end, are not easily resolved. When we increase the area of investigation, we simply end up multiplying the number of these problems, which further complicates the task of comparative analysis.

Given the problems, it might be preferable, in place of a team project, to coordinate the efforts of individual scholars toward the fulfillment of a common objective. Even in this instance, however, before comparative analyses can be successfully undertaken and collective judgments rendered, the ‘coordinating mechanisms’ by which widely disparate data can be shaped into comparable and uniform equivalences must first be established. They do not exist at present. Such coordinating mechanisms must include, for example, both conversion tables for the many weights and measures used in the Ottoman Empire, which take fully into account their regional variations, too, and conversion tables for land measurements. Coinage, its debasement and devaluation, and the history of prices represent other areas for which ‘coordinating mechanisms’ are still very much needed. In truth, other shortcomings, such as the still present, and sometimes gaping, lacunae in our knowledge and
understanding of the fundamentals of the economic, social, and institutional history of the Ottoman Empire in the 15th and 16th centuries, the period covered by these "tahrir" registers, continue to hamper our research efforts involving the registers. 5 This situation, too, would benefit from some outside direction being given to the individual effort. Whether a team effort or that of the individual, research involving the tahrir regist-

4 In these areas, it must be recognized, however, that the glass is half-full. Most welcome is the fairly recent contribution to Ottoman metrology by Halil Inalçık—who, in this as in many of his works, has turned his hand to the pressing issue of Ottoman metrology, choosing to illuminate this area, at the same time as he set out for us the rudimentary foundation—"Introduction to Ottoman Metrology," Turcica: revue d'études turques (hereafter Turcica) 15 (1983), pp. 311-348. Also to be noted is the commitment by Turcica to publish fundamental works on Ottoman metrology in a series toward the realization of a definitive guide on the subject (ibid., p. 312). Still a fundamental source on Islamic metrology is Walter Hinze's Islamische Masse und Gewichte (Leiden, 1955).

ters is most successful when it follows a deep immersion into the *tahrir* data, within whatever imposed limitations, because only an intimate knowledge and understanding of the data allows identification of the problem and peculiarities that can pose difficulties for comparative analysis.

Because the Ottoman *tahrir* registers have been within the research domain of historians of the 'West' since the end of World War II, any attempt to describe them courts the possibility of being not only jejune, but perhaps, simply quite unnecessary as well. Nevertheless, let one run these risks to make the following brief observations. First, perhaps it is indicative of the questions we continue to harbor regarding the nature of the Ottoman *tahrir defterleri* as an historical source that we still do not agree on the designation for this source. *Defterler* is not the problem, as we readily translate this as 'registers' (s. *defter*). Our problem lies with capturing the meaning of *tahrir.* *Tahrir* expresses the root meaning of 'recording,' or 'registering.' By some degree of mental extrapolation, we might also read into *tahrir* the word 'survey,' as we do indeed know that the *tahrir* registers were the product of state-conducted surveys undertaken in the Ottoman provinces. Consequently, *tahrir* can be seen as expressing the results of a cadastral survey, by the recording of those results in a register.

A second issue, however, complicates our arriving at a suitable translation. What exactly was being surveyed in the Ottoman provinces? Quite simply, the state surveyed all known revenue-bearing sources, with the view in mind of taxing these sources. Occasionally, inactive revenue sources were also recorded in the resulting registers. Since the wealth of the Ottoman Empire was overwhelmingly agricultural, the *tahrir* registers are frequently, and with some justification, identified as 'land registers,' or some variation thereof, which recognizes the land as being the primary source of wealth. Indeed, the New Redhouse Turkish-English Dictionary translates *tahrir* as 'land register' in the context of the meaning it held in Ottoman history. But, it is also quite well-known that the *tahrir* registers recorded non-agricultural sources of revenue as well, and therefore, the translation 'land register' does not capture the full meaning and scope of the *tahrir* registers.


7 "*Tahrir defterleri*" is itself a generic term, of later usage, that simply designates the 'final product' of the Ottoman practice of conducting periodic surveys of their provinces in the 15th and 16th centu-
The tahrir registers recorded, in addition to agriculturally-derived revenues, the revenues collected on animals yielding a usable product (read: from sheep to bees; draught animals were not taxed), the 'instruments' that processed agricultural products, such as oil presses and mills, the rural industries, such as dye-works and looms, and the towns and trade and commerce, local and inter-regional, of the industries and cities. These attributes of the tahrir registers are simply not being conveyed by the definition 'land register.' In addition, the tahrirs simply do not qualify as land registers, because they provide so few details, if any, regarding the size, value, and registration of land holdings, among other attributes that we would normally expect of a proper land register.8

Finally, it is well-known that the tahrir registers recorded people, but never the entire population. The paramount, if not exclusive, consideration that determined who was to be recorded in the tahrirs was tax liability, which was incurred by virtue both of their status as 'subjects' of the empire. The registers themselves were not officially titled "tahrir defterleri." They were kept, beginning in the 1560s, in the Ottoman Imperial Registry (Defter-i hakani), also known as the Defter-i dergâh-i ıli and the Defterhane; see D. A. Howard, "The Historical Development of the Ottoman Imperial Registry (Defter-i hakani): Mid-Fifteenth to Mid-Seventeenth Centuries," Archivium Ottomanicum 11 (1986/1988), pp. 213-14, 216-17, 221, and 229, and hence, they were also known as the 'Imperial Registers.' These registers are also called "Tapu" (here, 'Land'; for the term "tapu," see Cohen and Lewis, Population and Revenue, n. 2, p. 3) Registers.

The Imperial Registry actually oversaw and housed three type of registers: the mufassal defterleri ('detailed registers'), i jmol defterleri ('summary registers'), and nazname defterleri ('daily account registers'). In the author's view, only the first two registers can properly be regarded as 'tahrir' registers, because only these, actually, were the product of the periodic surveys. The distinction between these two tahrir registers is that the mufassal register recorded the 'full complement' of the data collected on all fiscal sources within a specified area, including as well the entire range of land/revenue holdings, while the i jmol register recorded this data only in an abbreviated form, and, in addition, the scope of this register was often limited to one category of revenue holding alone, such as to the timsar holdings (the Ottoman military revenue fields), and therefore, the latter register is not comprehensive, either in its scope or in the details it offers. Note that the designation "mufassal" or 'i jmol' usually constituted part of the official title of the Aleppo tahrir registers, found on their opening pages. In this present study, use of the term "tahrir defterleri," or "tahrirs" for short, will encompass both the mufassal and i jmol registers, although, in actuality, the study has availed itself only of the data from the mufassal registers represent a 'daily' (i.e., far-removed from the 'periodic'), chronological record, principally of the changes that occurred regarding the tenure-status of the Empire's military revenue fields.

The main repository of Ottoman documents, the Başkanlık Arşivi (the Archives of the Prime Ministry), in Istanbul, recognizes, in effect, the fundamental difference between the mufassal and i jmol registers on the one side and the nazname registers on the other, by classifying the former in the present "Tapu ve Tahrir" (here, 'Land-Deed and Survey'; note the ambiguity of this designation) Section of the Archives and the latter in the recently opened "Ruzname" Section. A few tahrir registers are also to be found in the "Maliyeden Müdürler" (Transferred from the Finance Ministry) Section of the Archives of the Prime Ministry, and a very important collection of tahrirs is found at the Tapu ve Kadastro Genel Müdürlüğü ('Land-Deed and Cadastral General Directorate') in Ankara. An excellent study of the Ottoman Imperial Registry is Howard's "Historical Development of the Imperial Registry," pp. 213-30. For a description of the tahrir registers and their value to historians, see The Encyclopaedia of Islam, 2nd ed., s.v. "Defter-i Khâkı," by Ömer Lütfi Barkan; Cohen and Lewis, Population and Revenue, pp. 3-18; and G. Káldy-Nagy, "The Administration of the sanjak Registrations in Hungary," Acta Orientalia 21 (1968), pp. 181-223.

8 Indeed, no less an aficionado of the Ottoman tahrirs as Ömer Lütfi Barkan acknowledged that they did not constitute land registers ("Defter-i Khâkı," p. 82).
the Empire and of their age and capability to work. Consequently, the tahrirs recorded tax-payers, which, more than anything else, affirms that it is the 'taxation dimension' that is at the heart of this source. In recording virtually only tax-payers, a whole segment of population was systematically being excluded from the tahrirs. This was the military and administrative, including the judicial, elite of the Empire, the true 'Osmanlis' (Ottomans), who enjoyed the privilege and prestige of tax exemption. At the other end of the social scale, slaves were also exempted from paying taxes. The tax-payers, then, were the farmers and farm-labor hands, tribesmen, artisans, shopkeepers, traders, and merchants, i.e., the economically productive members of Ottoman society, although tribesmen are traditionally less associated with their economically productive pursuits, animal husbandry namely, than with their potential for causing harm to the legitimate economic activities of others.

In addition to whole segments of the population being systematically excluded from the purview of the Ottoman tahrirs, another exclusion was at work within the ranks of the tax-payers themselves. This is the exclusion of the family members of tax-payers if they, themselves, were personally not liable for taxation, as many of them were not. Women and girls as a rule did not pay taxes, and neither did pre-pubescent boys. The tax-payers, then, were adult men, and their names were recorded, individually, under their village of residence, the quarter of the town or city in which they lived, or their clan or tribe (the village, town, tribe, etc., might be regarded as fiscal units). Among these adult men, Ottoman administration made a further distinction between "hane" (lit.,

9 Early on, Ömer Lütfi Barkan recognized this deficiency, which was a phenomenon of the administrative town and city, and he came to compensate for it, in his calculations of total population based on the tahrir data, by adding to his totals another 10 or 15 per cent of their value, or, in the case of Istanbul, 20 per cent ("Essai sur les données statistiques des registres de recensement dans l’Empire ottoman aux XVe et XVe siècles," JESHO 1:1 [August 1957], pp. 22-23; and "Research on the Ottoman Fiscal Surveys," Studies in the Economic History of the Middle East: From the Rise of Islam to the Present Day, ed. M.A. Cook [London, New York, and Toronto, 1970], pp. 167-68).

10 Christian women alone were held accountable for taxation, but this occurred only when they became widowed heads of a household (bive). This practice, however, was not consistently applied among the Christian population of the Empire (Cook, Population Pressure, p. 60), and it may turn out to have been characterized more by its absence than its presence. For example, it was not applied to the Christian population of Ottoman Syria; bives were recorded, however, in Ottoman Trabzon (Heath W. Lowry, Trabzon Şehrinin İslâmlılaştırına ve Türklesmesi, 1461-1583 [Istanbul, 1981]). 'Girls' were simply not taxed. And, as a general practice, which by no means was strictly observed at all times, pre-pubescent boys were not liable for any taxation, and therefore, they were not recorded in the tahrirs. When they reached the age of puberty, however, these boys, now considered to be young men who were capable of earning a livelihood, would be entered in the tahrirs as 'bachelors' (miijen-ıeds). The issue of these bachelors, whether they were in fact young adult men and whether or how they should figure into the computation of total population figures, has been, for some time now, a lively topic of debate among Ottoman historians. For an example of this debate, see Géza Dávid, "The Age of Unmarried Male Children in the Tahrir-Defters (Notes on the Coefficient)," Acta Orientalia 51:3 (1977), pp. 347-57.
'household') and "mujerred" (bachelor), recording in the tahrirs the total number of persons who fell under each category. What this distinction more accurately connotes, in this context, is 'the head of a household', who, most usually, was married, as opposed to the bachelor, who did not head his own household.\(^\text{11}\) The constituent members of a hane were recorded in the tahrirs only to the extent that they paid taxes, and consequently, the household itself cannot be reconstructed on the basis of the tahrirs; not even the size of the household is known. Moreover, the tahrirs rarely offer any information that would allow us to determine the age and sex structure of the population. Given the paucity of their demographic offering, it is surprising that the tahrir registers have been, and continue to be, referred to as 'census surveys.'\(^\text{12}\) Such serious deficiencies simply do not qualify the tahrir as a census survey.

What has happened is that the tahrir registers are being designated as 'census surveys,' 'land registers,' 'tax registers,' etc., according to the

11 Like the mujerred (see n. 10), the hane has long been the subject of an intense, ongoing debate among Ottoman historians. Unlike the question of the mujerred, however, the hane is absolutely central to the question of computation of total population, just as it is for European history. This author would argue that, despite the obvious sociological dimension of the hane (household), the hane of the Ottoman tahrirs must be considered as a fiscal unit since the nature of the source in which it occurs is fundamentally fiscal in nature. Consequently, we might assume that, given the natural impulse of governments to obtain as much tax revenue as possible, Ottoman government identified all persons who could conceivably qualify as 'head of a household,' which is what "hane" actually means in this context. Ottoman government was not interested, per se, in the totality of the household itself, only in the person who, as head of a household, was thus liable for taxation. As if to underscore the 'tax-liability-dimension' of the Ottoman hane, some level of tax exemption was given to certain 'categories' of persons who would otherwise have qualified as being hane. These were low-level religious functionaries such as the imam, the infirm, and the aged. Hence, the hane, as it is recorded in the Ottoman tahrirs, represents those who were liable for the full measure of Ottoman taxation.

It follows, then, that Ottoman administration had no particular interest in the actual, physical, living arrangement of the 'household head.' What did it matter whether he lived with his family together with another household head and his family under the same roof, or in an area warmed by the same hearth, or not, or whether he was the head of an extended family or not? In the case of an extended family, however, we can assume that more than one household head might be counted if that were the actual case, and absent the disqualifying factors of infirmity and old age. These observations are based on the author's knowledge and understanding of the situation as it existed for the Province of Aleppo in the 16th century.

Disqualified hane' must be taken into account when calculating total population, but the central question is that of the coefficient to be applied to the total hane statistic in order to arrive at an estimation of total population. The coefficient should, no doubt, vary according to time, place, circumstance, and lifestyle' (i.e., tribal vs. settled), and therefore, this is an issue that cannot be satisfactorily settled, and certainly not 'standardized.' The secondary question that needs to be answered is whether the 'bachelors' should automatically be assumed to be included in the 'hane' count, since they were not living in their own, independent household, or should they be added in, at some point to the calculation of total population. This author's inclination is to exclude them.

12 More than anyone else, Barkan, propagated this characterization of the Ottoman tahrirs (as, for ex., in his "Essai sur les données statistiques des registres de recensement," pp. 9-36), and through him it was picked up by Braudel. Times are changing, so that we now see so keen a scholar of Ottoman demography as Leila Eder, who appreciates the extent to which the tahrirs are not a proper 'census,' characterize the tahrirs, more correctly, as 'fiscal surveys' ('The Measurement of Preindustrial Population Changes: The Ottoman Empire from the 15th to the 17th Century,' Middle Eastern Studies 11:3 [October 1975], pp. 284-301).
particular interests of the individual researcher. There is, intrinsically, no harm in this, and the question of nomenclature is itself not important as long as there is basic agreement as to the nature of the data of the tahrirs, their potential for research, and their limitations for research, too. But, there is still no such consensus at present. Therefore, it might be useful, if we can agree on the preeminence of the revenue objective of the tahrirs— the fact that they are fiscal documents, intended, first and foremost, for the purposes of taxation—, to designate them by a name that reflects this, to wit, 'tax registers' or 'provincial tax registers.' These are terms already long in use.\(^\text{13}\) What we would gain from this more appropriate name is a highlighting of the nature of this source, i.e., that it was intended to serve the fiscal purposes of the Ottoman state, and therefore, we, at the very outset, should have more realistic expectations regarding the tahrirs as an historical source. In drawing up the tahrirs, the Ottoman state was not thinking of making a record for future economic or social historians to pursue, and consequently, the researcher must recognize the fact that data recorded for fiscal purposes may, very well, fall short of expectations when examined with other purposes in mind.

Even where such an awareness of the actual nature of the tahrirs exists, there needs to be the further recognition that the tahrirs pose particular problems for historical research. The sheer abundance of their data offering can overwhelm the researcher, as previously noted. This 'expansive' quality of the tahrirs, however, which, in a quite literal sense, often cover a great breadth of ground, must not be construed for comprehensiveness. If, for the purposes of illustration, we can reduce the data offering of the Ottoman tahrirs to 'categories of information,' admittedly a mechanistic view, we would have to acknowledge that the 'categories' covered by this source are actually quite limited in number. As it is true for any historical source, the tahrirs, too, need to be supplemented with other sources. As to their limited 'category offering,' in this lies both their shortcoming, the nature of which is evident, and their strength. The strength of the tahrirs rests with their presenting, usually in a more consistent form than not, data for categories of information that, in no other source, are to be found with such frequency and consistency. The tahrirs also offer a statistical record. This is both their uniqueness and their significance for historical research. No other source

\(^{13}\) The terms 'fiscal survey' or 'cadastral survey' are also acceptable as long as, for the latter, we understand what was being surveyed. This author's teacher and mentor, the late Professor Tibor Halasi-Kun, Columbia University, who was an unqualifiedly enthusiastic champion of the Ottoman tahrirs, was fond of the term 'domesday book' (as in his "Some Notes on Ottoman Mefussal Deftar Studies," \textit{Rusiyet Rüstem; Essays presented to Halil Inalcık on his Seventieth Birthday}, published as vol. 10 of \textit{Journal of Turkish Studies} (1986), pp. 163-66).
offers the possibility to obtain the outline of an entire provincial taxation regime.14

Particular note needs to be made of the fact that the tahrir registers exhibit a two-dimensional quality, lacking a true 'organic' depth, which poses further challenges for research. They represent merely a snapshot, frozen in their time-frame, for the year in which the data was collected.15 We do not know, and very likely we will never know, if, or to what extent, their tax requirements continued to be followed and taxes collected according to them up until the time of the next register. Not infrequently, a significant interval, fifteen years, twenty years, or longer, separated one tahrir register from its successor. What are we to make of this situation? It would be difficult to maintain the belief that tax rates or tax requirements could have remained entirely static over such lengthy periods of time.16 Surely, then, we have to regard the recorded tax rates and tax requirements, and other data, as being 'approximations', to some extent, of the reality. It has long been thought that the conquest of a new territory or the accession of a new sultan required that a survey be made, but other factors appear also to have been involved.17

The timing of the Ottoman tahrirs for Syria offers an example of the intervals between tahrirs that one might encounter. In the case of the Syrian tahrirs, two registers were made in quick succession in the early years following the Ottoman conquest in 1516; the fact that Sultan Suleiman (1520-66) acceded to the throne four years after his father's con-

14 Before we 'wring our hands' in despair over the deficiencies and shortcomings of the Ottoman tahrirs, we might remember the words of the economic historian Roger Owen, commenting on the scant statistical confirmation at our disposal for the decline of the Middle Eastern economy between 1500-1800: "... nothing is known about the vital relationships between the size of population, cultivated area, and agricultural production. Figures for the volume of intra-regional trade and for the output of the craft industry are similarly lacking; and yet without such information no proper evaluation of changes in the total volume of economic activity is possible." (The Middle East in the World Economy 1800-1914 [London and New York, 1981], p. 1.) The Ottoman tahrirs can shed some light on these questions.
15 Some slight amendment is necessary here. Ottoman officials carrying out a tahrir were instructed to use, as their yardstick for estimating projected revenues, a 'three-years-average,' which, in the case of agricultural revenues, would have obviated the disastrous effect of the 'extraordinary yield' occasioned by drought, locusts, etc. (Káldy-Nagy, "sancaq Registrations," p. 197). Bruce McGowan suspects that calculating these averages proved to be too onerous in practice, and hence, this method was likely not being followed, although he believes that consideration to the 'typical situation' was indeed being given ("Food Supply and Taxation," p. 147). This Ottoman practice, whether actually enforced or not, would appear to reflect the classical Islamic practice of the 'ibra (valuation) for determining agricultural revenues. For the 'ibra, see The Encyclopaedia of Islam, 2nd ed., s.v. "Kharidj," p. 1038, by A. K. S. Lambton.
16 Cohen and Lewis describe the cash amounts recorded in the tahrirs as 'notional' rather than 'practical' (Population and Revenue, pp. 7-8).
17 For an excellent discussion of the possible factors responsible for the timing of the tahrirs, see ibid., pp. 4-6 and 10-11.
quest of Syria may explain this short interval between these tahriirs. Then, the next register was made in the 1530s, to be followed by one last Suleiman register executed in the late 1540s/early 1550s, with the sole exception of one yet-later Suleiman register for Hamah in the 1560s. Next followed a register recognizing the accession of Sultan Selim II (1566-74). Finally, there was one last tahrir executed in the latter part of the 16th century, i.e., in the 1580s or 1590s, either quite a few years into the reign of Sultan Murad III (1574-95) or at the start of the reign of Sultan Mehmed III (1595-1603). For these Syrian tahriirs, the shortest period of time between tahriirs is the five-year interval seen for Tripoli between its earliest two tahriirs, while the longest is the twenty-seven-year interval between the last two tahriirs for Damascus.  

NOTE: It remains a question whether a pre-932/1525-26-dated mufassal register once existed for Damascus, as such a register is seen for both Aleppo and Tripoli. We might assume the existence of a mufassal register of this time period for Hamah and Homs, on the basis of an existing iṣnāl (summary) register that covers not only these two sanjaqs but also Tripoli -- TT 548, dated ca. 925/1519. It is noteworthy that the tahriirs for the Palestinian sanjaqs, which were part of the Province of Damascus, basically reflect the time-sequence seen for the Damascus tahriirs, similarly revealing no register before the 1520s, but diverging to show one additional register in the 1550s (cf. Cohen and Lewis, Population and Revenue, p. 10).

The registers prefaced by TT are found in the Tapu Tahir Section of the Archives of the Prime Ministry, in Istanbul, while the registers prefaced by TK are located in the Tapu ve Kadastro General Directorate, in Ankara. The dates for these registers are those established by the author, with the exception of the dates for TT 491, dated by Bernard Lewis, in "The Ottoman Archives as a Source for the history of the Arab Lands," Journal of the Royal Asiatic Society (1951), p. 153, and for TK 203, dated by Barkan, in Kanım/ar, p. 211. In the absence of an official date, approximate dates were determined on the basis either of dated internal notes or of official dates found for the corresponding iṣnāl register. Where two or three registers were used to record the results of one survey (denoted above by 'No./No. '), an approximate date was determined, and given above, on the basis of an official date, which, in all cases, was found for one register of a companion set. Dates for many of the above registers can be found in Lewis, "Arab Lands," pp. 150-54; for the dates of the Damascus registers, see
Given these intervals, 'continuous process,' is clearly not characteristic of the tahrir register. There should also be no a priori assumption that 'change' can readily be discerned from looking at one register alone. Yet, it is also true that the officials conducting the surveys not infrequently recorded changes regarding the status of a situation, in the form of notes, within the registers. Many of the early Anatolian tahrirs are rich in such notes, while this is less true for the earliest Syrian tahrirs. Whether such notes are present or not, certainly the researcher can distinguish change by comparing the tahrirs of a particular tahrir sequence, which, however, can be quite a difficult task. It remains noteworthy that change is not readily distinguished from the single tahrir register. This situation, therefore, beckons the researcher to take into consideration at least several tahrirs of a tahrir sequence. Preferably, however, all tahrirs of a tahrir sequence should be considered.

There is, today, an increasing recognition of the limitations and problems for historical research that the tahrirs pose. This recognition is both salutary and long overdue. It, no doubt, is a reflection of the growing maturity of our field, but it may represent, too, a reaction to our heretofore unbridled enthusiasm for and somewhat unquestioning attitude toward the tahrirs. It would be foolhardy for us, however, now to take our newly-found criticism so far as to dismiss this source altogether. In no way can we imagine that a world empire at the height of its power and enjoying the benefits from its well-functioning institutions, like the Ottoman Empire in the 16th century, would spend so much effort to produce a 'misbegotten' record that would hold little of interest for historians centuries later. We might remember that the Ottoman state expended...
much time and attention on the process by which the tahrirs were produced. It was not unusual for one year's time to be spent in executing a single tahrir register. Although this, in no way, guarantees the quality of the results, it does demonstrate the seriousness with which the Ottoman state viewed the undertaking and their expectation that the purposes for which they intended these tahrirs were being served. Our responsibility as researchers is to recognize these limitations and problems, and to find a way around them in as far as it is possible, so that we might exploit the rich, albeit 'imperfect,' data offering of the tahrirs to their fullest. Certainly we are the beneficiaries of their remarkably rich offering.

THE QUESTION OF AGRICULTURAL PRODUCTIVITY

Agricultural productivity would appear to be one of the areas most easily addressed through the tahrir registers. Moreover, since it is a matter that involves numbers, it would appear to be a most suitable candidate for computer analysis. It will be demonstrated in the pages to follow that the numbers themselves present significant problems. Two considerations should be born in mind when one sets out to use the Ottoman tahrirs to determine questions of agricultural productivity. The first consideration is, again, that the Ottoman state undertook the tahrirs with their fiscal interest as the primary objective, and therefore, simply the need for more revenue, or more grain, might very well have taken precedence over the actual conditions of agricultural productivity. Consequently, we should not automatically assume that tax rates are necessarily an accurate indicator of agricultural productivity. Yet, given the fact that the tahrirs do not

creasing demands, at this time, on the Empire's tax-paying subjects to maintain Ottoman armies in the field led to a series of popular revolts, often under the guise of religion (this is the theme of Gyula Káldy-Nagy's study, "Rural and urban Life in the Age of Sultan Suleiman, 'Acta Orientalia' 32:3 [1978], pp. 285-319). In addition, the world-wide inflation of the 'Age of Discovery' would strike the Empire in full force in the late 16th century, eventually destroying the financial stability of the Empire and undermining its institutions (see Barkan, "Price Revolution," pp. 3-28). And, in the words of Barkan: "In reality, in spite of spectacular conquests and the acquisition of vast territories, the extended wars of the last half of the sixteenth century exhausted more and more the financial reserves of the Ottoman Empire... And, what is worse, Ottoman conquests had passed the 'optimum' territorial limit. They ceased to be of benefit to the finances of the state, while the defense of the conquered lands created enormous expense." Ibid., p.18.

21 M. Mehdi Ilhan estimates that, under normal circumstances, a tahrir could not be completed in less than a year's time ("The Process of Ottoman Cadastral Surveys during the Second Half of the Sixteenth Century: A Study Based on the Documents from Miilmme Defters, 'Anuarul Institutului de Istorie si Arheologie 'A.D. Xenopol' [Publication of the Alexander I. Cuza University, Iassy, Romania] 24:1 [1987], pp. 19-20). See also Irène Beldiceanu-Steinherr and N. Beldiceanu, "Règlement ottoman concernant le recensement (première moitié du XV e siècle)," Südost-Forschungen 37 (1978), pp. 8-9, on this question of the time-requirements for a tahrir. For the process that the tahrir entailed, see Ilhan, "Cadastral Surveys," pp. 17-23, and Beldiceanu-Steinherr and Beldiceanu, "Règlement," pp. 1-24.
record total agricultural yields, we are wholly dependent upon their recorded tax rates and tax revenues, whether recorded as in-cash or in-kind levies or both, to arrive at some estimation of agricultural productivity. Hence, it emerges as a major question how we, then, can assess true agricultural productivity, if we can not completely ‘trust’ the given tax rates. The tahrirs’ given tax rates might be seen as reflecting one of several possibilities:

1) some relationship to productivity, at least at times
2) government needs for more revenue or more grain, or
3) the traditional tax rate applied in an area, or in a village, regardless of actual productivity. These possibilities will be discussed in due course.

A second consideration for the question of agricultural productivity is recognition of the fact that productivity may involve more than the usual panoply of factors, such as the quality of the soil, weather and the climate, or the degree of rainfall or irrigation potential. Good agricultural land may simply not be productive because of a shortage of cultivators or a lack of security; obviously, the latter may cause the former. To the casual traveler to northern Syria today, the plain situated north of the city of Aleppo, extending west of the town A'zaz and unfolding east towards the towns of Bab and Manbij, which reveals a plowed earth of rich, deep brown hues, appears to be good agricultural land. However, the Ottoman tahrirs of the 16th century do not reveal this area to have been particularly productive at that time, to judge productivity, from the value of the tax revenues being collected there. This area was both tribal and frontier in the 16th century. A'zaz became the seat of the Sanjaq of A'zaz (also known as "Livâ'-i A'zâz ve Ekrâd" and and as "Livâ'-i Ekrâd ve Kilîs"), which also encompassed the town of Kilis/Killiz and the area's Kurdish population: this area had a Turcoman population as well. Consequently, this area's low agricultural productivity, back then, might have been the result of the prevalence of the transhumance way of life among many of

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22 Abdur-Rahman Hamidé noted that this plain, known as the plain of Defterdar, plus the plain of Idlib, situated southwest of the city of Aleppo, were the agriculturally richest plains of the Aleppo region in the 1950s (La région d'Alep: étude de géographie rurale [Paris, 1959], pp. 61-62).

23 The Ottoman provincial administrative units—province, sanjaq (the Arabic "livâ") was in common use in the Arab lands, including northern Syria, but the author has chosen to use the term "sanjaq" instead, and nahiyê—were nothing if not variable, with provinces and sanjaqs frequently being reconfigured simply by the addition or subtraction of sanjaqs and nahiyes from their larger units. This was certainly true for the Province of Aleppo in the 16th century. A'zaz constituted a nahiyê of the Sanjaq of Aleppo in the first two tahrirs for Aleppo (BA [for Başbakanlık Arşivi], TT [for Tapu Tahrir] 93, pp. 201-81, and TT 146, pp. 490-648), after which it became an independent sanjaq of the Province of Aleppo, for which two later tahrirs survive. BA, TT 181 and TT 506 (these are identified by Bemad Lewis, in "Arab Lands", p.151).
its population, and the resulting conditions of generally less security. Conversely, districts (i.e., nahiyes) of the Sanjaq of Aleppo that showed a substantial degree of agricultural productivity in the 16th century, such as Jabal Sim'an and Sarmin, today reveal so much rock and rubble in their soil that it is hard to believe that they were once quite productive; actually, this area is still productive today.24 One imagines that the rock and rubble were, to some degree, present in their soil in the 16th century. In addition to their apparent agricultural productiveness, one suspects that what made these districts so productive back then was the fact that they were situated in the interior, and therefore, they enjoyed some measure of protection from tribal incursions. These districts in the 16th century were dotted with many villages, of which quite a few, to all appearances, not only were flourishing, but were supporting as well a significant population.

THE QUESTION OF TAX RATES

The Qasim Rates

In Syria of the 16th century, two basic methods for the tax assessment of the agricultural product were in use. The more prevalent was the qasim method, based directly on crop yield. It assessed the harvest of a particular crop at a specified fraction—always a simple fraction—of its total yield. For example, a village’s wheat harvest might be taxed at one-fifth of its yield. In contrast, the other assessment, designated as either the maqtî’ or deymîs (these terms were often used interchangeably), was based on the cultivated surface, taxing each crop on the basis of the cultivated acreage, given in feddân, at rates expressed in terms of either cash, i.e., the Ottoman silver açche, or a unit of measurement, such as the mekkûk, for in-kind levies. For example, a village’s agricultural tax obligation might be computed as two mekkûk of wheat per feddân, one mekkûk of barley, 12 menn of olive oil, and 100 açche of ‘summer crops’ per feddân.25 Or, the maqtî’-deymîs assessment might compute a

24 Writing in the 1950s, Hamidé noted for the region of Aleppo, in general, that not only was it the most populated region of Syria, but it was also the richest in terms of its agricultural production (La région d’Alepp, p.3).

25 “Bi-her feddân 2 mekkûk qamh ve şahr bir mekkûk ve zeyt 12 menn ve Sayfî yüz açche.” These rates are recorded for the village of Jadãiyû al-Jurû of the Nahîye of Sarmin, where the assessment is designated as the maqtî (BA, TT 1040, pp. 972-75). The mekkûk is discussed, below, in the text.

The feddân seen here is a surface measure that dates back to the Byzantine period. It can perhaps be identified with the Egyptian feddân of the Middle Ages, which was equal to 6,368 sq. m. (Hinz, Isto-
village's agricultural tax obligation simply as a single tax, i.e., in 'blanket' fashion without distinguishing individual crops, such as at the rate of 1,000 aqche per feddān26; for these blanket assessments, the tax was computed and collected in coin. Whether expressed in terms of coin or in-kind measurement, the maqtū' and deymūs denoted a fixed rate of assessment per unit of cultivated land. These terms can cause no small measure of confusion, because, in the later tahāris, they often denoted simply a lump-sum cash payment, apparently devoid of their meaning as a particular method of tax assessment.27

The qaṣim and the maqtū'-deymūs methods of assessment were

misische Masse, p. 65). Note, however, that the Syrian feddān of recent times represents a far-smaller area than either the contemporary or older Egyptian feddān (William Popper, Egypt and Syria under the Circassian Sultans 1382-1468 A.D.: Systematic Notes to Ibn Taghī Birdī's Chronicles of Egypt. Part 2 [Berkeley and Los Angeles, 1957], p. 37). The feddān is not addressed in the Circassian Sultans 1382-1468 A.D.: Systematic Notes to Ibn Taghī Birdī's Chronicles of Egypt Aleppo law codes. Where a feddān total is given in the Aleppo tahāris, it is usually without a qualifying name. There are some few cases where a feddān is described as "Rūmānī" or "Rūmī" (these perhaps denote the same surface value, and indicate, in general, the Roman/Byzantine period). In such instances, the "Rūmānī" or "Rūmī" feddān is sometimes found in opposition to the so-called "Islāmī" (Islamic) feddān. In a few cases, it is indicated that the Islamic feddān was half the area of the Rūmī feddān (as, for ex., for the villages of Kītīyan and Yāhmūl of Rūmīnī, "'Rūmīnī" of Byzantine Geography, Part II, 1264, nos. 2-5, p. 33). In the above Damascus law code, dated 955/1548-49, the feddān is defined in terms of the "chift," another Byzantine surface measurement, which, however, was more variable in nature, and hence, less precise than the feddān. The "chift" (lit., 'pair of oxen yoked to a plow'; New Redhouse Turkish-English Dictionary, 9th ed., s.v. "Chift") expressed the amount of land that a yoke of oxen could plough within various periods of time (for the Byzantine feddān and chift, see Encyclopedia of Islam, 2nd ed., s.v. "Kharṣaājad," by C. Cahen, p. 1031). According to the above Damascus law code, there existed three different feddāns, identified by the amount of land that a yoke of oxen could plough in a period of a day and night (the Rūmānī feddān), in a day alone (the Islamic feddān), and the value of the Islamic feddān as half of their value, would thus appear to be confirmed, or up to the time of noon (reproduced by Barkan, in Kānnūlār, prov. no. 1, p. 220; this law code prefaces BA, TT 263). In the Aleppo tahāris, feddān totals were very infrequently given for the villages. Similarly, Hüttermuth and Abdullatifah found that these totals were given for only about 20 per cent of the villages of southern Syria and Palestine in the late 16th century (Historical Geography, p. 76).

In the given example, above, 100 men, then men being a weight, are seen to equal one qaṣim. The Syrian qaṣim, in the Middle Ages, was equal to 819 gr., but the qaṣim in question here appears to be better identified by the contemporary Egyptian qaṣim equalling 812.5 gr. (or possibly, 814 gr.), which, in turn, corresponds to the Egyptian qaṣim (of which there were five types in the Middle Ages) of 81.25 kg. (or possibly, 81.4 kg.), and not to the contemporary Aleppo qaṣim of 228 kg. (see Hinz, Islamische Masse, pp. 16 and 24-26). Note that 'summer crops' are a common tax entry (i.e., "maš'ī [or, 'ašār-i šayrī"") in the Ottoman tahāris for Syria. This represents a collective designation for a range of summer crops, meaning crops that were usually sown in spring and harvested in summer or early fall, which, because of the small quantities in which they were being grown, were lumped together for purposes of taxation; their collective tax requirement was expressed in terms of coin. For the 'summer crops' of Syria, see Margaret L. Venske, "Special Use of the Tithe as a Revenue-Raising Measure in the Sixteenth-Century Sanjāq of Aleppo," JESHO 29 (October 1986), n. 46, p. 268.

26 "Maqtū', fī 1000 [aqche]." This is seen for the village of Hasfīyyā of the Nahātiyy of Sarmin; the tax obligation itself is designated as deymūs (BA, TT 93, p. 504).

27 In their later manifestation as a cash payment, maqtū and deymūs may also denote the tax-forming situation, particularly in the presence of the expression 'der while-i ...' (in the charge of ...). For further discussion of the qaṣim and maqtū'-deymūs assessments, and of their antecedents, see Venske, "Tithe," nn. 38-40, pp. 260-62, pp. 260-61, nn. 78-83, pp. 290-93, and pp. 289-93.
not Ottoman in origin; their roots extend far-back into Islamic history.\(^{28}\)

We know that, historically, cultivators favored the qasim method of assessment because of its innate flexibility—when harvests were poor, this automatically resulted in lower tax requirements. In contrast, the maqāţī̂-deymūs method of assessment was inelastic to actual changes in productivity—when harvests were poor, tax requirements were, in no way, reduced, since they were based on the cultivated surface, not on the actual yields.\(^{29}\) The qasim method of assessment would appear, then, to be the more reliable indicator of actual agricultural activity. In no way would this judgment need to be revised if it were established that Ottoman administration was using a 'three-years-average' (the 'ibra), previously referred to, in determining the qasim tax requirements. Obviously the 'distortion' occasioned by a 'three-years-average' pales in comparison with the distortion inherent in the long intervals that are frequently seen between tahrirs. At this point, too, we will resist the temptation to dismiss both assessments on the grounds that the tahrirs can not bear much relationship to reality anyway because of the sometimes-long intervals between them. This view, which is not entirely unjustified, is nevertheless bankrupt, because it will take us nowhere!

Some further reflection on how the maqāţī̂-deymūs assessment actually worked will invariably lead to an appreciation of the fact that it is not as good an indicator of agricultural productivity as the qasim, because it taxed crops according to the 'total' cultivated surface of the village or mezra'a\(^{30}\) (the named, cultivated sites that lay outside of the village lands, often representing former villages), not according to the actual acreage being devoted to a particular crop. The very fact that a village's lands, for example, may not have been of uniform fertility causes distortion. Furthermore, appreciate that a minor crop, such as the various vetches (i.e., jūlban/julubban and kushene), which, in the Sanjaq of

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\(^{29}\) Lambton, "Kharīḍ," pp. 1037-38. It might also be noted that the qasim method of assessment proved to be something of a disincentive to cultivators extending and improving the cultivated surface (ibid., p. 1038).

\(^{30}\) In truth, note that the author has assumed that the maqāţī̂-deymūs assessment was based on the 'total cultivated surface,' as opposed to the 'total surface,' which would have included pastureland and other, but this is nowhere indicated in the sources. Another question that arises here is whether the cultivated surface included the fallow, which, at all times, represented a fairly considerable area. Again, we have no evidence on this point.
Aleppo in this period, occupied only a small part of the cultivated area to judge from their tax revenues, was nevertheless being taxed at a rate based on the total cultivated surface. We can also recognize that, where one single maqtū'-deymūs assessment determined the entire agricultural tax obligation of a village or mezra'a, the potential for distortion of the reality was even greater. Finally, one must also note that, in the case of the Aleppo tahrirs, the rates by which the maqtū'-deymūs assessments were computed are usually not indicated. Therefore, one is left no choice but to base a study of agricultural productivity on those situations where the qasim method of assessment was in use.

Despite the foregoing validation of the qasim assessment for the purposes of a study of agricultural productivity, such a study will nevertheless encounter difficulties. Let one illustrate this point with situations encountered, in the tahrirs, for the Sanjaq of Aleppo in the 16th century. To start out, let us consider the qasim tax rates themselves, which appear, prima facie, to represent clear beacons that readily lend themselves to comparison with qasim rates from other areas. A cursory review of the later Aleppo tahrirs (from mid-century on) reveals the prevalence of the qasim rates of one-eighth, one-seventh, one-sixth, and one-fifth. As it is typical of research involving the tahrirs, the volume of data, at this point, demands that it be controlled in order to obtain meaningful findings. Accordingly, if we limit the inquiry to Aleppo's qasim tax rates as they are revealed in one tahrir--let us choose for this purpose the fifth tahrir, dated 1570-71--, we can identify 765 qasim villages or towns (occasionally, agricultural activity was seen for towns), out of a total number of 1,008 villages and towns. Clearly the qasim method of assessment predominated in Aleppo at this time. It was also discovered that Aleppo's prevalent qasim rates fell within a relatively narrow range, from one-eighth to one-fifth of the agricultural yield. The rate of one-fifth was seen for 46.5 per cent of the qasim villages, followed by the rate of one-seventh, for 24 per cent of the villages, to be followed by the rate of one-eighth, for 18 per cent of the villages. The rate of one-sixth was also fairly common, seen for 11 per cent of the villages. The only other qasim rates encountered for Aleppo's villages were the rates of one-tenth and one-fourth, each seen, however, for only two villages. Table 1, below, presents these statistics.

31 Rates are sometimes indicated in the first two tahrirs, but rarely after this time.
TABLE 1. --The Range and Representation of the Qasim Tax Rates as Seen for the Villages of the Sanjaq of Aleppo in 1570-71

<table>
<thead>
<tr>
<th>Qasim Villages</th>
<th>1/4</th>
<th>1/5</th>
<th>1/6</th>
<th>1/7</th>
<th>1/8</th>
<th>1/10</th>
<th>1/50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>111</td>
<td>356</td>
<td>32</td>
<td>183</td>
<td>138</td>
<td>2</td>
<td>0.3</td>
</tr>
</tbody>
</table>

SOURCE: Compiled from the data of BA, TT 493.

NOTE: For 51 of Aleppo’s 1,008 villages and towns, no method of agricultural assessment was indicated. These cases represented villages that were either no longer inhabited or else had very few inhabitants.

Aleppo’s qasim rates strike one as being reasonable rates, if not actually low rates. These rates particularly appear to be low when they are compared with the prevalent qasim rates seen for the same period—rates of one-fourth or one-third of the agricultural yield. These higher rates were also the prevalent rates seen, in the same period, for the Palestinian sanjaqs, which constituted the southern part of the Province of Damascus.22 This finding prompts the obvious question of whether Aleppo’s lower qasim rates truly signified a lower agricultural productivity, or were they the result of a more favorable treatment, by Ottoman administration, in respect to taxes. The answer to both is ‘no.’ Qasim tax rates can not simply be extracted from their context and compared readily with the rates from other regions.

There were two factors that affected Aleppo’s tax rates, causing them to appear to be lower than they actually were: the presence in this Sanjaq of both the resm-i chift (farm tax) system and the malikane-divâni system (the latter will be discussed in due course). The resm-i chift system, represented by the resm-i chift, resm-i bennak (bennak tax), and resm-i müjerred (bachelor tax) rates,33 was in effect in the

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22 The rates identified for Ottoman Damascus are based on the author’s examination of the Damascus tahirs. Not surprisingly, the same higher rates were identified for the Palestinian sanjaqs (Hütteroth and Abdul fattah, Historical Geography, pp. 64-65 and 77-78). The rates of one-fourth and one-third also appear to have predominated in Mamluk Syria, where, similarly, they were assigned to non-irrigated but reasonably productive land (al-Nuwayri, Nihayat, vol. 8, pp. 258-59).

33 The farm-tax system represents the great cornerstone of Ottoman provincial administration. It accorded the peasant-cultivator usufruct of and ‘security of tenure’ to a plot of land (the chift or farm), and a limited right of disposal of the holding, in return for the yearly payment of the ‘farm tax,’ according to the number of farms held. Also under this system, married adult men who held less than half a farm, who were known as “bennak,” paid the bennak tax, while landless, unmarried young men, known as ‘bachelor’ paid the bachelor (müjerred) tax (as outlined in the law code of the fifth Aleppo tahir, reproduced by Barkan, in Kanunlar, prov. no. 1, p. 206, and as identified in the actual practice). For the resm-i chift system, see The Encyclopaedia of Islam, 2nd ed., s.v. “Çift Resmi” and “Çiftlik,” by Halil Inalcık; İslâm Ansiklopedisi, s.v. “Çiftlik,” by Omer Lütfi Barkan, “Osmanli Imparatorda Resmi Emirler ve Reyonlar,” Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi 5:1 (January-February 1947), pp. 491-93 and 495-501; and Inalcık, “Raiyet Rüyası,” pp. 575-601. Recognize that this territorial chift, which is largely identifiable with the ploughland, must owe some debt to the Byzantine chîft land-measure (for this, see n. 25).
Sanjâq of Aleppo in the 16th century, while it was neither introduced into the Sanjâq of Damascus, nor into the Palestinian sanjâqs, nor into the Sanjâq of Tripoli. In all of Syria, the resm-i chift system was applied only in the Province of Aleppo, but even here, it was not uniformly introduced into all sanjâqs immediately following the Ottoman conquest. When one considers the impact of the resm-i chift taxes on the villages of Aleppo, their revenues, if added to the revenues obtained from Aleppo's common one-fifth qasim tax rate, could easily have made Aleppo's tax requirements comparable in 'burden' to the revenues being obtained from the higher qasim rates seen for Damascus and the Palestinian sanjâqs. Consequently, before making a comparison of the qasim tax rates of different regions, one, first, must determine whether the resm-i chift system was uniformly in place in the regions to be compared. More pertinent to this study, it has thus been seen that an administrative factor, here, the presence of the resm-i chift system, appears to have had some effect on the levels at which Aleppo's qasim rates were set. The implications of this for research is to obviate the possibility of an easy comparison being made between, for example, Aleppo's and Damascus's qasim rates, as their rates are simply not comparable, and therefore, to complicate any comparative analysis of agricultural productivity based on these rates.

The rates at which the resm-i chift, resm-i bennak, and resm-i müjerred taxes were being assessed in Aleppo remained the same throughout the 16th century after the first tahrir, where the rates were higher. In fact, the resm-i chift, in the first tahrir, was twice as high as the later resm-i chift, while the resm-i bennak was only slightly higher. The resm-i chift was eighty aqche in the first register, while only forty aqche in the subsequent registers. The resm-i bennak was reduced from sixteen aqche in the first register to twelve aqche in the later registers. Perhaps one justification for the initially higher resm-i chift rates was that no resm-i müjerred was being assessed in the first tahrir, although bachelors were being counted and recorded in that register; in the second tahrir, bachelors were being only erratically taxed. We might conclude from this constancy seen in the resm-i chift rates that, in the 16th century, these taxes were basically 'impervious' to changes in agricultural productivity and that the Ottoman state, at this time, was in no way manipulating these rates to obtain more revenue.

34 This conclusion is based on the author's examination of the tahrir-series for the sanjaqs of Damascus and Tripoli (for these registers, see n. 18). The research of Hütteroth and Abdulfatâh, resulting in their Historical Geography, has confirmed the absence of this system in the Palestinian sanjaqs.
TABLE 2. --The Taxes (Expressed in Aqche) of the Resm-i Chift System as Seen for the Sanjaq of Aleppo in the 16th Century According to the Ottoman Tahrirs

<table>
<thead>
<tr>
<th>Year</th>
<th>Chift</th>
<th>Bennak</th>
<th>Müğüred</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1584)</td>
<td>40</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>(1570-71)</td>
<td>40</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>(1551-52)</td>
<td>40</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>(1536-37)</td>
<td>40</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>(1526-27)</td>
<td>80</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>(1519-20)</td>
<td>80</td>
<td>16</td>
<td>6</td>
</tr>
</tbody>
</table>

SOURCE: BA, TT 610, TT 493, TT 454, TT 397, TT 146 and 1040 (these are companion volumes), and TT 93, from the latest to earliest tahrir.

NOTE: These rates are based on the data for the three districts (nahiyes) of the Sanjaq--Jabal Sim'an, Sarmin, and Shughr--that served as the control group for the first five tahrirs, plus the market towns and villages of the entire Sanjaq. Note that Shughr was not recorded with the Sanjaq of Aleppo in the first tahrir (nor is this district to be found in any of the early tahrirs of surrounding areas). Finally note that Jabal Sim'an alone constituted the control group for the sixth and last tahrir for Aleppo in the 16th century.

The limited presence of the resm-i chift system in Ottoman Syria is itself an issue of great interest that merits further consideration, but it is not within the focus of this article. Let one, however, observe that, if this system was truly a cornerstone of Ottoman provincial administration, it

35 The roots of the resm-i chift system, which go back to the early days of the Ottoman Empire, remain very much in question. Something of a 'dual personality' can be seen for the system. The earliest 'empire-wide' Ottoman qanunname, that of Sultan Mehmed II (1451-81), in theory representing a statement of general Ottoman practice, but some of whose provisions may be vested in a 'localized' situation, reveals this dual personality. It depicts this system both as a commutation, into cash taxes, of the labor-services previously required of the peasant, although these labor-services might be continued in lieu of cash payments, and as a territorial entity (see provs. nos. 1-4 and 14, Part 4; and prov. no. 16, Part 3, and prov. no. 7, Part 4, resp., in Barkan, Kanunlar, pp. 390-91). For a proper understanding of the aforesaid provs. 1-4, Part 4, one must consult Inalcık, Rüştvet Rustumu, pp. 577-81.

By the time of Mehmed II, the Ottoman Empire had made extensive conquests into what should be regarded as, at the very least, two distinctively different areas, in terms not only of population but also of prior administrative practice, i.e., areas wrested directly from Byzantine control, as in the Balkans, as opposed to areas under prior Islamic rule, as in Anatolia (although these latter areas, too, were once Byzantine). It is tempting to equate the first definition of the resm-i chift system, as a commutation of labor-services, with the newly-conquered Byzantine areas, and the latter with those areas already under Islamic rule and practice, but such a clear-cut division simply appears not to be warranted on the basis of the present state of research.

For the area measurements commuted by the territorial chift, see prov. no. 6, of the Hudavendigar qanunname, dated 892/1486-87, reproduced by Barkan, in Kanunlar, p. 2; the Sanjaq of Hudavendigar, in northwestern Anatolia, with Bursa as its major center, might be regarded as a 'mother-lode' of Ottoman provincial administrative practices, and as such, it was the subject of a very important study.
As we have come to view it, why was it, then, not introduced into the provinces of Damascus and Tripoli? We have discovered that Ottoman administration gradually extended, within the Province of Aleppo, the areas within which the resm-i chift system was to be applied, so that, by the mid-16th-century, the system appears to have been uniformly in place throughout the Province. Clearly, Ottoman administration deliberated over the question of whether to introduce the resm-i chift system into a particular area. It would be most interesting to know what considerations resulted in the decisions limiting the system in Syria to its northern part, i.e., to the Province of Aleppo.

This question of the presence of the resm-i chift system also reveals another problem that the tahiris might pose for research. We, traditionally, rely very heavily upon the qanunnames, i.e., the statements of the regulations and practices that were in force for a sanjâq, which frequently are to be found at the very beginning of a tahiri register, thus

by Ömer Lütfı Barkan and Ender Meriçli, Hıdavendîgî Lıvasi Tahırı Defterleri (Ankara, 1988). It is important to note that, in eastern Anatolia, in particular, some labor services remained an obligation for the peasants even after the resm-i chift taxes had been introduced, and such services were to be rendered in addition to the payment of cash taxes, although they might also be fulfilled by a cash payment (see, for example, the Diyarbekir qanunname, dated 947/1540, pov. no. 8, reproduced by Barkan, in Kamu Enstrül." 36 The resm-i chift system is seen for the Sanjâq of Aleppo in the first Ottoman tahiri, dated ca. 1519-20, i.e., four years after the Ottoman conquest in 1516. It is also seen, in this tahiri, for what will later become the independent Sanjâq of 'Aqqa and the Kurds,' and for the southern nahiyec of Kafr Tabb, Shayzar, and Almînya, which, later on, will be recorded for other sanjâqs of the Province of Aleppo. By the time of the second tahiri, compiled for Syria in the mid-1520s, the sanjâqs of Hamah and Homs, to the south of Aleppo, appear to have been joined to the Province of Aleppo, having formerly been surveyed as part of the Province of Tripoli, but the resm-i chift system was not introduced into these sanjâqs at this time. It is not until the fourth tahiri at mid-century, i.e., thirty-five years after the Ottoman conquest, that the resm-i chift system was introduced into the sanjâqs of Hamah and Homs (Margaret L. Venzke, "Syria's Land-Taxes in the Ottoman 'Classical Age' Broadly Considered." "Ve: Millieterarası Türkiye Sosyal ve İktisat Tarihi Kongresi: Tebliğler," İstanbul, 21-25 August 1989 [Ankara, 1990], pp. 422-23). [Note that, in the cited article, what should be the top line of the text for p. 423 is mistakenly placed at the top of p. 422. Also, the following section was omitted in the printed text after "Mamluk" on line 4, p. 423: "dawra and kilîmde. When the resm-i chift system is finally introduced in Hamah and Homs some twenty-five years later, the reason given, at that time, in the qanunname for Homs, is simply that the last of the Mamluks...""] As a result of this later extension of the resm-i chift system, the system will be seen, apparently, in the whole of the Province of Aleppo. However, the system will not be introduced elsewhere in central Syria, nor at all in southern Syria.
serving as an introduction. We need to recognize that the qanunnames can exhibit an 'historical' quality. They can be most imprecise as to the actual time when a measure or practice was introduced. For example, the successive Aleppo qanunnames each mention, in turn, that "formerly" (muqaddemî), when an imperial tahrîr had been ordered, the "innovations" (bîd'âtîlar) that had been introduced in the time of the "Cherâkise," i.e., the Circassians or Mamluks, who ruled Syria from 1260 to 1516, were abolished and in their place the resm-i chift system was introduced. When exactly was the resm-i chift system introduced into the Sanjaq of Aleppo? Had we read this notice in the qanunname of the fourth tahrîr, we might have surmised that the change had taken place in the third Aleppo tahrîr. But, this same notice appears in the qanunname of the third tahrîr, and therefore, we realize that the change had taken place earlier. Since no earlier qanunname survives for Aleppo, we had to check the actual entries of the first and second Aleppo tahrîrs to determine whether the system was actually present there. It was found in both tahrîrs, and therefore, we can conclude that the system was introduced shortly after the Ottoman conquest. The Aleppo qanunnames did not tell us this. On the contrary, given their tendency toward repetition, they can truly be misleading on this point, as well as on other points. Perhaps one reason for the repetition of this notice is that Ottoman administration must have grappled for some years with this question whether to introduce the resm-i chift system into other sanjaqs of the Province of Aleppo, namely Hamah and Homs, and consequently, this issue remained of real topical concern. We should stand hereby warned that the information in the qanunnames must be checked against the actual tahrîr entries, otherwise one can be seriously misled.

Are the Qasim Tax Rates a Reliable Indicator of Agricultural Productivity?

Recognition of the fact that qasim tax rates from different regions may not be entirely comparable need not discredit their validity for any one sanjaq. We might still harbor the expectation that qasim rates can be a reliable indicator of agricultural productivity within a sanjâq. And yet, this author would have to acknowledge that, in her experience, it has

37 The qanunnames of the third, fourth, and fifth Aleppo tahrîrs, TK 3, p. 1-b, BA, TT 454, p. 2, and BA, TT 493, p. 8, resp. (this last is also reproduced by Barkan, in Kanunlar, prov. no. 1, p. 206).
38 Note that the qanunname of the fourth tahrîr for Homs clearly indicates, and correctly so, that the resm-i chift system was being newly introduced at that time, i.e., at mid-century (BA, TT 281, pp. 3-4).
been difficult to assess both the significance and the reliability of qasim tax rates even within one sanjaq. W. -D. Hütteroth and K. Abdul fattah arrived at a similar conclusion when they investigated this question for the Palestinian sanjaqs in the late 16th century. This situation presents us with a real puzzle: was there no correlation between tax rates and agricultural productivity in the Ottoman provinces in the 16th century? If not, then, was there any rationality in the Ottoman agricultural tax system? On what factors were Ottoman agricultural tax rates based?

These are most difficult questions to answer, and they will not, indeed can not, be answered here. Any attempt to determine the degree of correlation that existed between qasim rates and agricultural productivity, even for one sanjaq, must naturally entail the comparative approach. That approach might seek to investigate either one area, be it a single nahiye or the whole of a sanjaq, over a period in time, i.e., through a series of tahrirs, or the constituent nahiyes of a sanjaq might be compared against each other for one moment in time, as represented by a single tahrir. Although the most conclusive results might be obtained from a sanjaq-wide focus over a period of time, this focus would overwhelm the lone researcher, in terms of the volume of data involved, especially absent use of the computer in the arduous data-coll ecting stage, which the present regulations of the Archives of the Prime Ministry in Istanbul do not allow. Of these options, let us consider a comparison of nahiyes at the same moment in time.

This approach was undertaken for the occasion of the Ottoman Tahrir Defterleri Conference in Konya, in 1992, when the author attempted an investigation into the question of agricultural productivity focusing on two nahiyes of the sanjaq of Aleppo, with the ulterior objective to identify the problems that one might encounter in tahrir research. But, how does one single out two nahiyes? Should one have chosen two nahiyes that had similar qasim rates or widely varying ones? Given the potential problems that the tahrir registers might pose for research, these problems are likely to be even more evident when a comparison of similar situations is conducted, and therefore, the situation of similar qasim rates was chosen. Along analogous lines of reasoning, areas of higher qasim rates might reflect agricultural productivity more faithfully than areas of lower rates, where non-agriculturally-related factors might have had greater play, thereby preventing areas that were potentially productive from actually becoming so. Therefore, it might be of greater interest to look at districts that had lower qasim rates. Accord-

39 Historical Geography, pp. 64-65 and 77-78.
ingly, the comparison was made of two Aleppo nahiyes that had low qasim rates in the 16th century. First, however, note the benefits to be obtained from the sanjaq-wide perspective. In this case, it allowed us to single out the districts having low qasim rates.

The 'low-tax' nahiyes thus chosen for focus were 'Amaq and Manbij at the time of the fifth Aleppo tahrir, dated 1570-71. Here, the qasim rates of one-seventh and one-eighth, respectively, predominated. Both nahiyes were situated on the periphery of the Sanjaq, and hence, they might be regarded as 'frontier' districts. The other nahiyes of Aleppo that, similarly, had low qasim rates at this time were Bāb, Jabbūl, and Rāwandān. See Map 1, below, for these locations. These five nahiyes were located on the northern and eastern peripheries of the Sanjaq, abutting areas where tribalism was still strong. Amaq was situated east of Lake 'Amaq, on the frontier of the sanjaqs of "Uzayr and A'zāz and the Kurds", to the north. (Lake 'Amaq itself was reclaimed for land after World War II and today is quite agriculturally productive.) 'Amaq very likely was the more protected of the two nahiyes, because Manbij, with its eastern boundary extending to the Euphrates River, where it thus delimited the northeastern periphery of the Sanjaq, confronted an even sharper 'divide' between 'the desert and the sown.' Beyond the Euphrates River lay the more sparsely settled northern Iraqi lands, and Iraq itself was to remain a battleground between the Ottoman Turks and Safavid Iran until the issue was decisively settled in favor of the Ottomans in 1639. 'Amaq had less than a third of the territory of Manbij, which was the largest of Aleppo's nahiyes. 'Amaq also had only a third of the number of Manbij's villages: fifty-three villages to Manbij's 153 villages. Among these so-named villages for both nahiyes, however, there were quite a few uninhabited villages—fifteen and sixteen for 'Amaq and Manbij, respectively--; these might, more fittingly, be regarded as mezra'as. These uninhabited villages, plus even a cursory review of the tahrir entries for 'Amaq and Manbij, impress one with the incidence of low-population density in both districts.

When one looked more closely at the tahrir entries for all of the villages of 'Amaq and Manbij, however, differences between them could be discerned that held implications for the question of the degree of correlation existing between tax rates and actual agricultural productivity. 'Amaq had slightly higher qasim tax rates, rates of one-seventh and one-sixth of the agricultural yield. The lower rate of one-seventh predom-
as reflected for the villages of the Sanjak of Aleppo in the Fitih Tahreer (1570-71).

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Map by Dinah McFarlane

Key:
- High incidence of Maqta/Deyman Assessment, reflected for over 50 per cent of a Nahiye's villages.
- Lower incidence of Maqta/Deyman Assessment, reflected for between 24-27 per cent of a Nahiye's villages. Note that there is no 'intermediate' category for the Maqta/Deyman.
- Prevalence of the Qasim Assessment, reflected for at least 76 per cent of a Nahiye's villages.
inated, being reflected in 43 per cent of 'Amaq's villages, and in 57.5 per cent of its qasim villages. In contrast, the qasim rates seen for Manbij were, decidedly, a degree lower. Manbij reflected qasim rates of one-eighth and one-seventh, a scale lower than 'Amaq's rates. There was also one lone rate of one-tenth. The tax rates seen for both 'Amaq and Manbij, ranging from one-sixth to one-eighth of the agricultural yield, were moderate rates, without question.

What merited such moderate rates? In both districts, there were relatively fewer cultivators per village than seen for many of the districts of the sanjak, and therefore, this factor alone might have justified the lower tax rates, irrespective of the fertility of the soil in these districts in any absolute sense. For 'Amaq, the average number of cultivators per village was 16.2, counting all villages, even the uninhabited ones, which, obviously, were being cultivated by 'outsiders.' For Manbij, the average was 14.9 cultivators. At this point, to achieve more meaningful statistics, we need to limit our focus to the qasim villages of both districts, and, moreover, to restrict ourselves further to those qasim villages for which complete data was given. Consequently, our focus group for 'Amaq will consist of thirty-six of its forty qasim villages, and for Manbij, 126 of its 139 qasim villages. This more restricted focus reveals for 'Amaq an even higher cultivator-per-village average than that of Manbij, 23.5 cultivators versus 17.8.

Can we infer that 'Amaq had slightly higher tax rates because it had a greater number of cultivators per qasim village? The situation is far from clear, because Manbij's cultivators, though fewer in number per qasim village, produced more per capita than 'Amaq's cultivators. The average Manbij cultivator produced sixteen mekkūk of wheat and barley, as compared to the ten mekkūk of wheat and barley produced by the average 'Amaq cultivator. Should we now ask whether higher tax rates were imposed on 'Amaq in an effort to goad greater productivity? It is also true that the average qasim village of 'Amaq produced less wheat and barley than the average Manbij village. The average 'Amaq village

41 BA, TT 493, 'Amaq, pp. 596-617, and Manbij, pp. 240-93.

42 BA, TT 493, 'Amaq, pp. 596-617, and Manbij, pp. 240-93. Note that only one magzī'-deymlā village each is seen for 'Amaq and Manbij; in both cases, magzī' appears in the context of tax-farming, and therefore, it may not actually have denoted a method of assessment (ibid., pp. 606 and 255, resp.). For each district, there were quite a number of villages--12 and 13, resp. --for which no method of agricultural assessment was indicated; these were either uninhabited or sparsely inhabited villages, and their taxes were recorded as a single, lump-sum cash payment (as also occurred for certain qasim villages), hence offering no information regarding the types of crops grown. Also note that the given statistics for cultivators, in the text above, reflect the recorded "netern" (individuals'; here, adult males) totals. The recorded "hane" (household) totals were not used because they excluded certain cultivators, such as all "bachelors" (mujāradd), who did not head their own household, and also individuals, like the tmun, who received a measure of tax exemption.
produced 234 mekkûk of wheat and barley, as compared to the 286 mekkûk of wheat and barley produced by the average Manbij village. If both the average cultivator and average village of Manbij produced slightly more than the average cultivator and village of 'Amaq, then why were their tax rates slightly lower than those of 'Amaq? Was Manbij more productive because of its lower qasîm rates? Was 'Amaq’s agricultural land overworked in terms of its number of cultivators, and did this, consequently, result in lower productivity? The answers to these questions are by no means evident. Indeed, we are drowning here in a sea of speculation! The impasse we have reached is, by no means, an unusual experience in tahrîr research. Table 3, below, sets out these statistics for 'Amaq and Manbij.'

TABLE 3.-- Wheat and Barley Production for the Low-Tax Aleppo Nahiyes of 'Amaq and Manbij as Seen for Their Qasîm Villages in 1570-71

<table>
<thead>
<tr>
<th>Nahiyeh</th>
<th>No. Villages</th>
<th>Total Wheat and Barley Yield</th>
<th>Total Agricultural and Wheat and Barley Revenue in Aqeh</th>
<th>Average No. of Cultivators Per Qasîm Village</th>
<th>Ratio of Cultivator to Wheat and Barley Yield in Mekkûk</th>
<th>Ratio of Qasîm Village to Wheat and Barley Yield in Mekkûk</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Amaq</td>
<td>36–846</td>
<td>8,426</td>
<td>182,759–142,880</td>
<td>23.5</td>
<td>1:10</td>
<td>1:234</td>
</tr>
<tr>
<td>Manbij</td>
<td>126–2248</td>
<td>36,031.6</td>
<td>510,981–478,872</td>
<td>18</td>
<td>1:16</td>
<td>1:286</td>
</tr>
</tbody>
</table>


NOTE: Note the limitation of this table to the qasîm villages for which data was available, as opposed to the total number of qasîm villages for 'Amaq and Manbij- 40 and 139, resp. Note also that the given statistics for 'cultivators,' above, reflect the neferûn (‘individuals’) totals recorded in the tahrîr entries, which reflect all adult cultivators, even those who may have received some degree of tax exemption. In order to obtain the ‘total-wheat-and-barley-yield’ statistics, above, the author multiplied their recorded revenue requirements by the inverse of the qasîm tax rate. Finally, note that the given statistics for 'total agricultural revenue,' above, reflect the recorded taxes on all agricultural production,
excluding the **rüsum-i 'örfiyye** ('customary taxes') taxes (whose premier representatives are the resm-i chift taxes), which do not represent direct levies on the actual agricultural product. It is quite noteworthy that the revenue from the taxes on wheat and barley represent the far-greater part of the 'total agricultural revenue.'

For 'Amaq and Manbij, it appears, quite simply, that there was little correlation between *qasim* tax rates and agricultural productivity. Tax rates were low regardless of the number of cultivators. It was also not unusual to see that more wheat and barley were being produced per-cultivator when there were fewer cultivators. In addition to the previous speculation on this point, we need to consider the possibility that the cultivation of *mezra'as* played some role here, diverting some agricultural activity away from certain villages, which would result in these villages reflecting less agricultural productivity than what we otherwise might expect. Unfortunately, the *tahrirs* frequently do not give the names of the villages that were cultivating *mezra'as*, and therefore, we can not accurately assess the actual agricultural activity of such villages. Furthermore, the revenue obligations of the *mezra'as* tend to be given as an undifferentiated cash sum; certainly, this is true of the later Aleppo *tahrirs*. This obviates the possibility of knowing what the *mezra'as* actually produced, and consequently, of being able to determine the actual contribution, by *mezra'as*, to the wheat and barley production of a *sanjaq* or *nahiye*. Both 'Amaq and Manbij had a significant number of *mezra'as* under cultivation. 'Amaq's *mezra'as*, fifty-five in number, actually surpassed the number of its villages, although not by much, while 121 *mezra'as* were seen for Manbij. *Mezra'as*, however, may not provide the entire answer to this question of tax rates and village productivity, because *mezra'as*, quite simply, outnumbered villages in the *Sanjaq* of Aleppo in the fifth *tahir*. Therefore, 'Amaq and Manbij were not

43 The *tahrirs* frequently give, in the *mezra'a* entry, the name of the village in whose vicinity (designated by 'der nezd-i qariye-i'; 'in the vicinity of the village of...') the *mezra'a* was located. Very much less frequently indicated, however, is the name of the village responsible for cultivating the *mezra'a*, designated by 'der yed-i ahll-i' ('in the possession of the inhabitants of...'). In the absence of this latter designation, are we to assume that the *mezra'a* was being cultivated by the village in whose vicinity it was located?

44 It is believed that the *mezra'as* were largely devoted to the cultivation of cereal crops because of their generally less-protected locations (Hütteroth and Abdulfattah, *Historical Geography*, pp. 78-79). Even if we can assume this to be true for most *mezra'as*, we nevertheless have no information regarding the actual quantity of grain being produced. Again, we have only cash sums to work with.

45 BA, TT 493, 'Amaq, pp. 596-617, and Manbij, pp. 240-93. Note that in cases seen for Manbij where more than one *mezra'a* was recorded in a single *mezra'a* entry, the entry, as a whole, was counted simply as one *mezra'a* (ibid., pp. 254, 261, 270, 280, and 291).

46 This, however, attests their importance in the equation of agricultural production. In most of the *sanjaqs* investigated by Hütteroth and Abdulfattah, *mezra'as* represented about one-quarter of a *sanjaq*’s agricultural tax yield (*Historical Geography*, pp. 78 and 96, Fig. 10).
unique in this matter. For example, the more heavily-taxed district of Jabal Sim'an, which was also a much more urban district since it surrounded the city of Aleppo, had a far-greater number of mezra'as in relation to its villages in this period—166 mezra'as versus 64 villages.47

Finally, one last point, which contradicts the previous observation regarding the greater per-cultivator productivity when there were fewer cultivators, is that where there existed in 'Amaq or Manbij a village with many cultivators, these cultivators were producing a seemingly healthy tax revenue despite the low tax rates; to all appearances, these cultivators could have paid higher taxes. This raises the question whether tax requirements, in the first place, were being rationally calculated on the basis of their stated tax rates. In sum, the qasim rates for 'Amaq and Manbij appear to have remained consistently low regardless of differing circumstances as to number of cultivators, and presumably also as to agricultural potential. This situation leads one to suspect that other factors were being considered when authorities set out to establish the qasim rates. Certainly, in the case of 'Amaq and Manbij, there was no obvious correlation of tax rates with actual productivity, nor with the number of cultivators.

W. D. Hütteroth and K. Abdul fattah came to the conclusion, regarding the differences in tax rates they encountered for the Palestinian sanjaqs in the late 16th century, that these differences could only, in part, be explained by natural conditions. They surmised that the qasim rates must reflect the hand of tradition,48 resulting in the situation where earlier tax rates, which, by the advent of the Ottoman period, had come to be regarded as the traditional rates, were simply being continued in use. If tradition were to prove to be the decisive factor in the establishment of the qasim tax rates, then any a priori belief in the existence of a rational relationship, in the 16th century, between tax rates and actual productivity is simply not warranted. And, certainly today's researcher can not automatically assume the existence of a rational relationship, which brings us full-circle to the same critical question—how valid, then, is a study of agricultural productivity based on the qasim tax rates?

47 BA, TT 493, pp. 103-178. Note that the few cases here of uninhabited villages were nevertheless counted as villages. Also, in the rare case where several mezra'as were recorded together in one mezra'a entry, these were counted only as a single mezra'a. For the issue of the role played by the mezra'a in agricultural production, see Margaret L. Venzke, "The Question of Declining Cereals' Production in the Sixteenth Century: A Sounding on the Problem-Solving Capacity of the Ottoman Cadastres," Turks, Hungarians and Kipchaks: A Festschrift in Honor of Tibor Halasi-Kun, vol. 8 of Journal of Turkish Studies (1984), pp. 261-64.

48 Historical Geography, pp. 64-65 and 77-78. See also McGowan, "Food Supply and Taxation," pp. 177-79.
The situation regarding the *qasim* tax rates becomes even more confusing when one descends to the 'micro-level', i.e., looking at individual villages. Let one present a few examples, from this micro-level, of the incongruous situations encountered for the *nahiyes* of 'Amaq and Manbij that might bedevil any analysis of agricultural productivity. The following examples are noted for 'Amaq. Two villages, Kafr Farhâ and 'Anadân, produced the same amount of wheat and barley, and they were taxed at the same rate for these crops. Kafr Farhâ produced that same amount with 52 cultivators, 'Anadân with only 29 cultivators.\(^{49}\) Similarly, another village of 26 cultivators, Sârîmiya, produced three times as much wheat and barley as the village of Kafr Lâtash, which had only one fewer cultivator; these villages were subject to the same *qasim* rate, one-sixth.\(^{50}\) For another two villages that had the same tax rate, one-sixth, the seventeen cultivators of Mastaba produced 270 *mekkûk* of wheat and barley, while the thirty cultivators of Mezra‘a-i Kafr Lâtash, also known as Kafr 'Äyâ, who represented almost twice the number of cultivators of the former, produced less wheat and barley (only 240 *mekkûk*).\(^{51}\) For another two villages, Qarâfi Kabîr and Qarâfi şaghîr, each having the same number of cultivators (twelve), the latter produced 30 *mekkûk* of wheat and barley, while the former produced seven times that amount, yet these villages were being taxed at the same rate, one-sixth.\(^{52}\) The evidence for such 'incongruities' can go on-and-on. Despite some differences in the types of crops being grown in the foregoing villages, wheat and barley were still the primary crops for all, and therefore, such differences can not entirely account for the disparities seen in the production-levels of these primary cereals.

Similar anomalies can also be seen for Manbij. The village of Tulayli, for example, which had only one cultivator, who had two *chift* (farm), produced half as much wheat and barley as the village of Hawâ with its sixteen cultivators: the former produced 140 *mekkûk* versus the 280 *mekkûk* of the latter. Both villages produced wheat and barley exclusively and were subject to the same tax rate, one-seventh.\(^{53}\) For another two villages, having the same tax rate of one-eighth, Shuwayhâ and

\(^{49}\) BA, TT 493, pp. 596 and 597, resp. Kafr Farhâ, however, did produce more 'summer' (ṣafîf) and garden crops. It also produced chickpeas and broad beans, which were not seen for 'Anadân.

\(^{50}\) BA, TT 493, pp. 597 and 598, resp. In the vicinity of Kafr Lâtash, there was an enclosure of nets, or weir, for fishing (dâhîm), which, most likely, diverted some of the attention of this village away from agriculture (ibid., p. 598), but surely this was not a full-time activity.

\(^{51}\) BA, TT 493, pp. 598-99 and 598, resp. The latter village was more heavily involved in summer-crop (ṣafîf) production than the former.

\(^{52}\) BA, TT 493, pp. 602 and 603, resp. Here there are no significant differences in crop specialization in the two villages.

\(^{53}\) BA, TT 493, p. 248.
Yazılı Fakhâr, the former with its six cultivators produced more wheat and barley (656 mekkûk) than the latter, which had three times as many cultivators, eighteen who produced only 560 mekkûk of wheat and barley. 54

As one last example for Manbij, although many more examples could be presented, we turn to two villages that had a widely divergent number of cultivators: Kâfi Qirân with its sole cultivator and Tâsh Atân with its seventy-eight cultivators. Each village was subject to the same tax rate, one-eighth, and each produced wheat and barley exclusively. That one cultivator of Kâfi Qirân produced virtually twice as much wheat and barley as Tâsh Atân’s seventy-eight cultivators, i.e., 200 mekkûk versus 104 mekkûk! 55 How can we possibly explain such disparities between the number of cultivators and their agricultural output? There is no obvious answer. Where a village had no cultivators at all or only a few, we assume, again, that this land was being cultivated from the outside, hence explaining some of the disparity. This, however, is not likely to be the entire explanation. Even if it were, given that we often do not know the entire labor activity of a village, i.e., the other village or mezra'a lands that it might have been cultivating in addition to its own fields, the very concept of ‘village production’ is imprecise, it is often not ascertainable, and it is also subject to increasing distortion the greater the number of ‘dependent’ mezra’as, etc. that a village was cultivating.

We might seek, at this point, to broaden our focus in hopes of gaining more insight into how we should interpret the situations that have been identified for ‘Amaq and Manbij. It might also be useful to re-consider our basic assumption that the low population density of ‘Amaq and Manbij was largely responsible for their low qasim rates, by comparing their situation with that of a district having a relatively high population density. Accordingly, the district of Jabal Sim’an, previously referred to, would appear to be a suitable candidate for comparison. Jabal Sim’an is further recommended because of its use of the same mekkûk measure, the “Halabi mekkûk,” for its cereal crops. On the basis of the 43 qasim villages of Jabal Sim’an, in the fifth tahrîr, that were found suitable for comparison, it was confirmed that, indeed, these villages were more heavily populated, quite considerably so: the average number of cultivators per village was 67, to be compared with the average of 23.5 for ‘Amaq and 18 for Manbij. Jabal Sim’an also had a higher ratio of qasim-village to wheat-and-barley-yield (in mekkûk): 1:343, to be compared

54 BA, TT 493, p. 264.
55 BA, TT 493, p. 278. That one cultivator of the former village was a "Yûrûk" (nomad).
with 1:234 for 'Amaq and 1:286 for Manbij. So far, so good. Jabal Sim’an’s higher qasim rates would thus appear to make sense. However, if we were to compare Jabal Sim’an’s ratio of cultivator to wheat-and-barley-yield, 1:5, with the ratios for 'Amaq and Manbij, 1:10 and 1:16, respectively, to our surprise, we find that the average cultivator of Jabal Sim’an was producing less wheat and barley than the cultivators of 'Amaq and Manbij. Therefore, we have no grounds to conclude that low population density, per se, was a primary factor in explaining low tax rates, although it might well be. High population density can be compatible with both higher tax rates and low per-cultivator yields, as Jabal Sim’an’s situation demonstrates. Statistics can be ‘manipulated’ in so many ways, producing, in turn, a variety of results. Let us beware not to manipulate the statistics in such a way as to produce the expected or desired results!

To attempt some explanation of Jabal Sim’an’s low per-cultivator wheat-and-barley yields, it must be noted, again, that a significant number of mezra’as were being cultivated in Jabal Sim’an, two-and-a-half times the number of its villages. We must take this mezra’a production into consideration, in this case especially, but perhaps also in all studies of agricultural productivity. The mezra’as are a ‘wild-card’ that may have a significant bearing on the question of agricultural productivity. The inclusion of mezra’as, in a study, will force us to focus such studies on the ‘agricultural tax yields,’ not crop yields, since the yields for the mezra’as, which were often recorded as a single, lump-sum cash payment, rarely offer any possibility not only for determining the crops actually grown, but consequently, for computing crop yields, too. In the case of Jabal Sim’an, it is quite likely that the cultivation of mezra’as, together with the greater variety of crops being grown in certain areas of this nahiye as a result of irrigation (note, for example, that the cultivation of garden produce is more labor-intensive), goes a long way toward explaining the seemingly low ratio of cultivator to wheat-and-barley-yield seen there. It is also likely that other factors were involved that may not be directly related to agriculture. We can not discount the role of tradition, and we must also consider the possibility of successful negotiation of tax rates, by the cultivators themselves, with provincial authorities.

In the discussion shortly to follow, it will be seen that a particular fiscal

56 The statistics presented for Jabal Sim’an were compiled from the data given for this nahiye in BA, TT 493, pp. 103-178. Note that four qasim villages were excluded from the analysis either because of incomplete data, being uninhabited, or of use of a variant mekkâ. The statistics for 'Amaq and Manbij are found on Table 3, above, in the text. The statistics for Jabal Sim’an were compiled in the same manner as the statistics for 'Amaq and Manbij.

57 For an example of such negotiation, see the text, below.
policy might also be a factor in the determination of qasim tax rates. Last, we must recognize the possibility that the recorded estimates of tax yield, which we would assume to be based on the given qasim tax rates, may simply have been 'unscientifically' determined, in the first place, because of errors, sloppiness, or bias on the part of state officials involved, or because of misrepresentation by the cultivators themselves, in addition to the above-named factors. The presence of even several of these factors might mean that there was no rational relationship between expected yields and qasim tax rates. If we acknowledge, then, that several, if not more, factors not directly related to agricultural productivity played a role in determining qasim tax rates, we would have to conclude that the qasim rate, at best, bear only a rough relationship to agricultural productivity, actual or potential.

Given this conclusion, we might wish to seek refuge in the more tangible concept of 'agricultural production.' Indeed, up to this point, we have maintained a distinction of sorts between 'agricultural productivity,' the avowed focus of this study, and agricultural production. The first term is broader and less tangible, encompassing the aspects of potential productivity and of 'expected yields' (as opposed to actual yields), while the second represents the 'actual,' i.e., what is actually being produced regardless of productivity potential. As far as the data of the tahrirs is concerned, this distinction is a specious one. Given the irregular and frequently-long intervals between tahrirs, and the other problems that have thus far been identified, the tahrirs, and the other problems that have thus far been identified, the tahrirs are no more an accurate indicator for actual agricultural production than for the more intangible concept of productivity. The Ottoman tahrirs are simply an imperfect gauge, whether for agricultural productivity or actual agricultural production.

In tahrir research, a sound methodology is of critical importance for the validity of the results to be obtained. The micro-level of the tahrirs, i.e., the individual village or other fiscal unit, holds particular dangers for research. The examples, presented above, for the districts of 'Amaq and Manbij have demonstrated just how incongruous the findings for an individual village can be. This should constitute a warning to us of the inherent potential for distortion that the micro-level holds. Obviously this situation argues for a broad data base to militate against the distortions caused by the single anomalous case. Certainly, at the very minimum, the whole of a nahiye must be considered for any comparative analysis, whether based on a probe through time or not. Even a border, sanjaq-wide focus, however, would, by no means, eliminate the poten-
tial problems that the *tahrir* can pose for research; in fact, it would create problems of its own!

In an earlier study of wheat and barley production (not productivity), undertaken by this author for the *Sanjaq* of Aleppo in the 16th century, limited, however, to the *Nahiye* of Jabal Sim'an, one of the more prosperous and protected of Aleppo's *nahiyes*, in the first five Ottoman *tahrirs*, the findings of a decline, over time, in the primary cereals production, which was occurring against the backdrop of an increasing rural population, did appear to ring with some credibility. These findings broadly mirrored what Braudel identified as being the fundamental characteristics of the Mediterranean basin in the 'long 16th century': a significant increase in population that only began to slow down some time after 1550, but not without first putting pressure on the available cereal supplies. It could not be conclusively demonstrated that the near-doubling of Jabal Sim'an's population in the 16th century had actually exerted a pressure on the existing food supplies, especially since the population of the city of Aleppo, situated in the neighborhood of this *nahiye*, actually declined during this period. The findings, however, of a decline in the wheat and barley yields of these villages at the same time as there occurred a significant increase in the number of *mezra'as* under cultivation, in addition to a steady, if not slightly greater, utilization of the *mezra'a* sites long in use, did appear to support a conclusion that a certain population pressure was indeed being felt.

Despite the apparent validity of these findings, they were potentially 'vulnerable' on one point, which centered on the study's control sample. Among the first requirements of the investigation was to identify the villages that were consistently recorded in all five tax registers being used; fifty-three villages were identified. These villages, next, had to be narrowed down to the *qasim* villages, since it is only for this assessment that agricultural production can be computed. Here a serious problem was encountered. So few villages were found to have been taxed by the *qasim* method of assessment in the earliest two *tahrirs*. At most, nine villages could be identified in one of the two registers, or in both, that had some continuity, however limited, with the later three registers. Con-

58 *The Mediterranean*, vol. 1, pp. 326-32, 394-98, 402-412, 570-76, 584-85, 591-94, 604, and 606. Note that Braudel's evidence for this population increase is most abundant and reliable for the urban centers.

59 Venzke, "Declining Cereals' Production," pp. 253-54, 256-59, and 261-64. Note that the population decline seen for the city of Aleppo in the 16th century goes against the trend that Braudel identified for the Mediterranean. When the city of Aleppo's population is studied over the course of the 16th and 17th centuries, however, growth is seen (see André Raymond, "The Population of Aleppo in the Sixteenth and Seventeenth Centuries according to Ottoman Census Documents," *International Journal of Middle East Studies* 16:4 (November 1984), pp. 447-60).
sequently, of necessity, the 'case' for a decline in wheat and barley production had to rely on a very small sample at the critical 'baseline' of the time sequence. One or two anomalous cases in such a small sample could seriously misrepresent the baseline, and consequently skew the results. Moreover, there were no grounds for thinking that those nine villages were representative of Jabal Sim'an as a whole. Despite these concerns, one had no recourse but to use this very small sample. In contrast, for the later three registers, twenty-nine qasim villages were found to have been consistently recorded. These obviously constitute a much more respectable and credible sample. Nevertheless, they cannot make up for the deficiency at the other end of the time sequence. Consequently, one would have to acknowledge that the findings for a decline in the production of the primary cereals in Jabal Sim'an are far-more reliable for a 'starting-point' represented by the third tahrir, dated ca. 943/1536-37, than for an earlier baseline. In short, the smaller the sample, the less credibility the findings command and the greater the likelihood of their being called into question.

In no way would the author place much confidence, if any, in the results obtained for only a few villages, or a single village, tracked over a period of time. Optimally, one entire nahiyah should constitute the minimal unit for any comparative study, whether for a comparison over a period of time or with other areas. We might also note that those results obtained for Jabal Sim'an, however valid they might be, can not automatically be assumed to be valid for the Sanjaq of Aleppo as a whole. The validity of the results found for Jabal Sim'an can, indeed, be tested by conducting further probes, based on other nahiyahs of the Sanjaq. 'Expansion of focus' is the constant call of tahrir research.

This brings us to the central problem regarding the use of the tahviris for research. The peculiarities that the tahviris pose for research today argue, contradictorily, for both an in-depth and expansive surface-survey approach. Without the in-depth probe, i.e., the singling out of a nahiyah, or whatever the case, and looking at it village-by-village over a period of time, the fundamental characteristics and peculiarities of the district can not be identified, and therefore, the groundwork necessary for a comparative study will not have been laid. Without this groundwork,

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60 Venzke, "Declining Cereals' Production," pp. 255-56 and 258-59. Note that, within the nine-village sample for the earliest two tahviris, there were two cases that might be regarded as being anomalous: the village of Haritlin saw a dramatic, more-than 200-per-cent increase in its wheat and barley production between the first and fifth Aleppo tahviris, while the village of Babb al-Nis saw a significant decline in its cereal production—a 79-per-cent decline between the first and third tahviris (ibid., p. 259).

61 Cf. the similar opinion and concern expressed by Heywood, in "Critical Studies," pp. 331-36.
no valid, reliable study can result. On the other side of the ledger, however, on what basis can one single out one nahiye for examination? Did it have lower tax rates, or lower agricultural production, for example, and if so, in relation to what? Obviously, one first has to determine the salient characteristics of the sanjaq as a whole in order to distinguish, however preliminarily, the 'apparently' distinctive characteristics of a particular nahiye. For example, how else could the author have known that 'Amaq and Manbij were low tax-paying districts of the sanjaq of Aleppo? Finally, one last consideration that argues most cogently for the 'expanded' focus is quite simply the fact that findings for a broader data sample command greater validity and respect than those drawn from some narrow 'neighborhood,' which may reflect peculiarities that are entirely its own. That one neighborhood may, very well, be able to speak for a broader area. However, in the absence of solid data to support such a claim, one is simply 'whistling in the wind'!62

In short, tahrir research, as it should properly be conducted for a major comparative study, can be inexorably demanding. Optimally, a preliminary survey of a broad area, such as a sanjaq, should first be undertaken in order to obtain a sense of the 'lie of the land,' with the ulterior objective to identify the focus for an initial probe. The researcher must next probe deeply, preferably through several tahrirs, and directly confront the peculiarities that are to be found in the data of the probe(s). There is ever the danger of drowning in the details. Before reaching that point, the researcher must extricate him or herself in order, not only to determine the findings at hand, but also to begin to see the broader picture and the implications of the data. The more probes that can be made, the clearer the outline to emerge and the better the foundation for comparative analysis. In the case of a study considering more than one sanjaq, a team-effort would be most welcome, but it can only be successful with an extraordinary degree of cooperation and communication.

The Effect of Fiscal Policy on Qasim Tax Rates

Qasim tax rates might also be affected by fiscal policy. This was found to be the case for quite a few of the vaqf and múlk villages of the

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62 The methodologically creative (especially for the period of its publication) and justifiably admired study of M.A. Cook (Population Pressure in Rural Anatolia) is nevertheless vulnerable on this question of 'representativeness.' On what evidence can we be assured that the parts of the three sanjaqs that comprised his focus were representative of the whole of that great and diverse expanse of territory known as Anatolia? The author himself, to his credit, makes no such claims, noting also that he was guided in the selection of these three areas by the relative completeness of their tahrir series (ibid., p. 10 and n. 1, p. 10).
Sanjaq of Aleppo that were affected by a policy change introduced in the fourth tahārī at mid-century. Before addressing this policy change, let one first note that, by Mid-century, Aleppo's vaqf and mülk regime had come to bear a fairly marked resemblance to the mālikāne-divānī vaqf and mülk regime that was widespread in Anatolia in the 16th century, as well as earlier. The basic feature of the Anatolian mālikāne-divānī regime was the division of revenue, within the same village or mezra'a, between the holders of vaqf (mortmain) and mülk (freehold) on the one side, and the state or its officials, i.e., the military-administrative elite, on the other side. Thanks to Irene Beldiceanu-Steinherr's pioneering work on this particular vaqf and mülk regime, we can now identify this regime with the Anatolian Seljuq State (1075-1277) in its later period, where the regime is seen to date back at least to the mid-13th century, if not earlier.63 In truth, we do not know how the regime, or system, might have operated in its original form, since we are only viewing it, for the first time, some two centuries later, as it is revealed to us in the Ottoman tahāris. We might expect that the regime underwent changes over time and that the Ottomans themselves introduced changes to it. Since the regime's distinctive revenue-division characteristic may be seen for other Islamic political administrations, for example, that of the Mamluks in Egypt and Syria,64 we cannot identify a truly unique characteristic for the mālikāne-divānī regime outside of its nomenclature, where 'mālikāne' denoted the revenue share of vaqf/mülk and 'divānī' the share of the state and its representatives.

Notwithstanding our very incomplete understanding of this special regime, many of Aleppo's vaqf and mülk villages and mezra'as came to reflect, not only the 'divided-revenue' characteristic seen in Anatolia, but also its range of revenue-appointment seen in this time period. The most distinctive characteristic of Aleppo's mālikāne-divānī regime entailed the practice of taxing the agricultural yield, in effect, twice: the revenue from one assessment would go to vaqf/mülk (sometimes, the state would also receive a share of this revenue), while the state and its representatives received the revenue from the second assessment, with no


64 This is quite clearly manifested for Mamluk Egypt in the magisterial compilation of landholders by Heinz Halm, in his Ägypten nach den mamlukschen Lebensregistern, 2 vols. (Wiesbaden, 1979 and 1982). The similar division of revenue-holding seen in Ottoman Syria, from its earliest period, must, at least in part, reflect the preceding Mamluk situation in the view of the author.
intrusion here from vaqf/mülk. In the Sanjaq of Aleppo, the nomenclature distinctive to the Anatolian regime, "mâlikâne" and "divânî", was not in use. On the contrary, the vaqf/mülk revenue share had no special designation outside of "hâsil" (here: revenue) in the late registers, while the state's revenue share was specifically designated as the "tithe" ("öshr"). Creating much confusion is the fact that, in Anatolia's mâlikâne-divânî regime, ""öshr"" designated the revenue share of vaqf/mülk, not that of the state as seen for Aleppo's mâlikâne-divânî regime. This practice of two, apparently independent, assessments on the agricultural yield in Aleppo appears to have been a practice of some time-standing. However, as the result of a fiscal policy introduced into the Sanjaq of Aleppo at mid-century, i.e., beginning with the fourth tahrir, the Ottoman administration increased the tax rates for the tithe, with the result that the state or its representatives would now receive more revenue through the tithe. This change significantly increased the tithe revenues, bringing them much closer, in magnitude, to the revenues being obtained through the first, non-tithe agricultural assessment. Clearly this was a fiscal measure that was intended to produce more revenue for the state. It is noteworthy that no such fiscal measure was introduced into the vaqf and mülk regime of the Province of Damascus in this period. Consequently, the vaqf and mülk regimes of Aleppo and Damascus can not be considered to be entirely comparable, which might possibly pose problems for any comparative analysis.

What is particularly relevant here to this issue of the validity of the qasim tax rates as an indicator of agricultural productivity is that this tithe fiscal policy affected the qasim tax rates, too. Specifically, it caused the lowering of the qasim tax rates for the non-tithe assessment, whose revenues were being received by vaqf and mülk, at the same time as the tithe tax rates, whose revenue beneficiaries were the state and its officials, were being raised; the tithe rates are not known, since they were not recorded in the tahrir entries. The effect of this policy, which, no doubt, also speaks to its intent, can easily be appreciated if we were to


66 For further discussion of this fiscal policy, see Venzke, "Special Use of the Tithe," pp. 257-303. Barkan also observed the encroachment of the state on the interests of vaqf and mülk where the mâlikâne-divânî system was, or had been, in place in Anatolia, in his "Mâlikâne-Divânî Sistemi," pp. 135, 136, and 141-42. See also the mention of this phenomenon in a Diyarbekir qanunname, below, in the text.

67 This conclusion is based on the author's examination of the relevant mu'assal registers for Damascus, BA, TT 263/383, dated ca. 955/1548-49, and TT 474/543, dated ca. 977/1569-70.

68 This tithe revenue was the product either of the qasim method of assessment or the mülk-deymûs, depending upon which assessment was designated for the first agricultural levy; the method of assessment used for the tithe is not actually indicated in the tahrir entries. Where the tithe is the
imagine the agricultural revenues of mâlikâne-dîvânî villages as constituting an economic revenue pie whose size has remained relatively unchanged over a long period of time, because tax revenues had not increased. As a result of this new fiscal policy, the pie, while remaining unchanged in size, was nevertheless being cut in a different manner: the state was being 'served up' a larger portion of the pie, while vaqf and múlk were receiving a correspondingly smaller portion of it. Actually, this was a clever administrative policy, because it resulted in the state obtaining more revenue for itself, through the tithe, while not increasing the overall tax burden on the village or mezra'a. The state achieved this revenue increase simply by effecting a redistribution of the revenue of the existing pie at the expense of vaqf and múlk. Here we clearly see Ottoman administration manipulating the qasim tax rates as a matter of fiscal policy, and therefore, in this instance, the qasim rates can not be considered to represent a direct indicator of agricultural productivity.

The effects of this fiscal policy can easily be tabulated. Table 4. below, reveals its effects, as illustrated for selected villages of the Aleppo nahiyes of Jabal Sim'an and Sarmin. It presents, for these villages, their total agricultural revenue, which is also broken down into its component first agricultural assessment (i.e., "1st levy") and the tithe assessment, as recorded in the third, fourth, and fifth tahrîrs. In looking at the columns under the heading "ca. 1536-37" (the date of the third tahrîr), which represents the baseline period, before the policy was introduced, two points should be noted: one, the tithe revenues at this time represented rather modest sums in comparison with the total agricultural revenue being collected from these villages; and two, the qasim tax rates were the higher rates for Aleppo, rates of one-fifth and one-fourth. A change regarding these two points will be seen in the fourth tahrîr, and sometimes also in the later tahrîrs. This change, quite simply, took the form of a rather substantial revenue-increase in the tithe from mid-century on, at the same product of the qasim assessment (again, this is not actually indicated), not only is the qasim tax rate for the tithe not given, but, in addition, any attempts at mathematical computation to determine this tax rate do not result in a simple fraction. In sum, one can not determine what the tithe tax rate was in these cases; on the question of these tithe tax rates, see Venzke, "Special Use of the Tithe," pp. 273-79.

In contrast, the Aleppo qanunname of the fifth tahrîr clearly states how the tithe revenues were being computed in the situation where the maqûl-deynûs assessment was in use. In these cases, the non-tithe and tithe revenues were apportioned from a single agricultural levy, which was determined by the maqûl-deynûs assessment, according to a 60:40 ratio, resp. (BA, TT 493, p. 14; also reproduced by Barkan, in Kammlar, provs. nos. 16 and 17, p. 210; these provisions are discussed by Venzke, in "Special Use of the Tithe," pp. 295-97). Note that there was also a second type tithe in the Sanjak of Aleppo, which represented a tax directly levied on vaqf/mülk; in the case of this type tithe, the tax rate can easily be deduced. For a discussion of this type tithe in Aleppo, see Venzke, "Special Use of the Tithe," pp. 304-315.
time as the qasim tax rates for the non-tithe assessment were being lowered, to the modest rates of one-eighth and one-seventh. In the maqṭū'-deymūs villages of Table 4 (these villages are identified by the absence of a qasim tax rate), the tithe revenues similarly saw an increase in the later tahrirs, while the non-tithe revenues declined. In sum, the qasim tax rates may not indicate what the researcher, prima facie, would believe them to indicate. These tax rates must be studied and understood within their immediate context. The lower qasim rates seen for the tithe villages of Aleppo in the later tahrirs--rates of one-eighth and one-seventh--are roughly the equivalent of the earlier rates of one-fifth and one-fourth, when the effect of the tithe tax-rate increase, in the later registers, is taken into account. Again, the researcher must beware!

The Aleppo qanunname of the fourth tahrir offers an explanation, which is not, however, altogether credible, for this new policy affecting the tithe. Indeed, the Ottoman administration went to some pains to justify the revenue loss that this policy inflicted on vaqf and múlk.69 This particular use of the tithe in the Sanjaq of Aleppo, actually in the Province of Aleppo, would appear not to have been a mere 'local' phenomenon. There are indications of a similar manipulation of qasim tax rates, and likewise to the detriment of the interests of vaqf and múlk, in certain Anatolian qanunnames found in O.L. Barkan's Kanunlar. For example, the Diyarbekir qanunname dated 947/1540-41, in attempting to explain why villages that used to pay one-half of their agricultural revenue to vaqf now pay only one-quarter to vaqf, 10 would appear to identify a similar administrative initiative to gain more revenue for the state at the expense of vaqf and múlk. It appears not unlikely that this policy was applied over a wide area. Regardless of its extent, wherever the policy was introduced, it represents a factor that must be taken into consideration in any study that uses the qasim tax rates. Certainly, too, this most interesting tithe issue merits further investigation in its own right.

69 BA, TT 454, pp. 6-8. It should be noted that, at the same time as the administration raised the tithe tax rates, in the fourth tahrir, to benefit the state and its representatives, it also imposed the tithe, elsewhere, as a tax requirement for the first time. This last tithe measure became known as the "new tithe" ("ışhri-jedid), and it became the source of local controversy. For this "new tithe" measure, see Venkste, "Provincial Taxation," Ph. D. diss., pp. 470-542; BA, TT 454, pp. 6 and 9 (of the qanunname) and TT 493, pp. 12-13 (of the qanunname), also reproduced by Barkan, in Kanunlar, prov. no. 14, p. 209.

70 Prov. no. 23, reproduced by Barkan, in Kanunlar, p. 135. Note that this provision, like others treating this matter, is extremely difficult to understand.
TABLE 4.--The Ottoman Policy, Introduced at Mid-Century, That Effects a Re-Division of Agricultural Revenues in Favor of the State's Tithe Revenue, as Illustrated for Selected Villages of the Aleppo Nahiyes of Jabal Sim'an and Sarmin in Successive Tahrirs of the 16th Century

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SOURCE: For Jabal Sim'an, BA, TT 493, pp. 103-178; BA, TT 454, pp. 94-158; and BA, TT 397, pp. 84-127. For Sarmin, BA, TT 493, pp. 332-440; BA, TT 454, pp. 298-379; and BA, TT 379, pp. 678-736.

NOTE: Note that the third Aleppo tahrir, dated ca. 1536-37, serves as the baseline, by which the later changes made to the tithe can be seen. A 'blank' under the "Q." (for Qasim Assessment) Column indicates the Maqtû/Deymûs assessment. Note also that the qasım tax rates, above, govern only the revenue of the "1st levy"; the tithe revenue, in the qasım situation, is obtained as the result of a second agricultural levy. However, in the maqtû-deymûs situation, the tithe represents an apportionment of...
the total agricultural revenue that is obtained from a single assessment, with one part of the revenue going to the tithe and the other part going to the "1st levy." Finally, note that the tithe, in the above cases, represents the type tithe that is achieved as a result of a second agricultural levy or of an apportionment from the total revenue. It is not the other type tithe seen in Aleppo that represents a direct assessment on vaqaf and mülık.

The Maqṭū'-Deymūs Method of Agricultural Assessment

The maqṭū'-deymūs method of assessment offered an alternative to the use of the qasim assessment in Ottoman Syria of the 16th century. As an assessment based on the cultivated area, not on the agricultural harvests, it offers no possibility for determining total agricultural yields, nor does it provide a "clear indicator" for agricultural productivity, as the qasim tax rates reputedly, though often mistakenly, are believed to do. (In light of the previous discussion, we have come to realize that neither is the qasim tax rate itself such a clear, unambiguous indicator of productivity.) Despite these shortcomings, the maqṭū'-deymūs method of assessment should be considered in any study of agricultural productivity, because it offers another perspective on the issue.

A casual examination of the maqṭū'-deymūs villages of the Sanjaq of Aleppo in the fifth tahrir leaves one with the impression that quite a few of the most productive villages were those in which this assessment was being applied; for the incidence of this assessment, see Map 1, above.71

71 This impression of the maqṭū'-deymūs villages is reinforced particularly by the identification of the highest incidence of such villages with the greater Sarmin market area, which can be identified by the nahiyes that applied the Sarmin mekkāk, and, to a lesser extent, with the greater Ḥārīm market area, which can be identified by the nahiyes that applied the 'Ḥārīm' mekkāk (for a percentage-breakdown of maqṭū'-deymūs villages in the Sanjaq of Aleppo, by nahiyeh, see Table 1, in Venzke, "Provisional Taxation," Ph. D. diss., pp. 190-92; and, for these mekkāk areas, see Map 2, below in the text.) The Aleppo tahrirs offer seemingly contradictory evidence on this question of the maqṭū'-deymūs assessment's relationship to agricultural prosperity. The qamūn names indicate that, for villages and meṣrā'as subject to the maqṭū'-assessment in the past, the administration re-affirmed this maqṭū' status for some of these cases, with revenue increases in the fourth and fifth tahrirs, while it recognized for other cases the status of qasim or their having become "ḥālī" (uninhabited). It is also indicated that, for certain villages (and meṣrā'as) "on the verge of ruin, and no longer able to support the deymūs," these would now be recorded for the qasim assessment ("deymūsā mütehemmîl olmâyūb harābî mûṣīf olmûyû"); BA, TT 493, p. 8, also reproduced by Barkan, in Kanunlar, prov. no. 2, p. 206; this same provision is also found, with substantially the same language, in the earlier qamūn names, TK 3, p. 1-b, and BA, TT 454, p. 2). The meaning of the entire provision is not altogether clear. It implies, at the very least, that the qasim assessment was the administration's choice for the revival of villages and meṣrā'as. There is also the suggestion that the maqṭū'-deymūs assessment was responsible for the ruin of villages and meṣrā'as, but this may be no more than administrative policy; note that the terms maqṭū' and deymūs are being used somewhat indiscriminately in these qamūn names. Overall, it appears that the maqṭū'-deymūs assessment was losing ground to the qasim assessment, by administrative choice. In contrast to this administrative favoring of the qasim assessment, there is some evidence that the villagers themselves may have preferred the maqṭū'-deymūs assessment. This evidence is found in
This prompts the question of whether these villages were, coincidentally, just naturally more productive, or was the method of assessment in some way responsible for their greater productivity? This is a question that clearly merits investigation. We know that the maqtu'-deymus assessment entailed the collection of taxes twice a year, whereas the qasim assessment entailed three tax-collection periods.\textsuperscript{72} Therefore, it is possible that the ‘apparent’ greater prosperity of the maqtu'-deymus villages, if indeed this is confirmed through further investigation, stemmed, in some part, from the greater freedom they enjoyed from tax collectors.

It is also one’s impression that the tax obligations of Aleppo’s maqtu'-deymus villages, in the later tahrirs, changed less over time than the obligations of qasim villages, for which significant fluctuations can sometimes be seen.\textsuperscript{72} How this should be interpreted is not clear, but it might be seen as offering some confirmation of the fact that the maqtu'-deymus method of assessment was less directly tied to actual conditions of agricultural productivity. For the purposes of the present inquiry, it would serve as a further illustration of the point that the numbers found in the tahrirs must be interpreted with great caution. Finally, it is clear from the Aleppo tahrirs that the maqtu'-deymus assessment enjoyed a greater prevalence in the early tahrirs.\textsuperscript{74} Why it lost some favor over the notices, in the second Aleppo tahrir, indicating that villagers had come forward (seemingly on their own initiative) and had agreed to pay their total tax obligation as a specified deymus sum (there meaning a cash sum), to be paid in two installments, although the question of installments is not always addressed. For examples of such notices, see BA, TT 146, pp. 331-32, 522, 560, 561, 566-67, 624-25, 642, 940-43, 998, 1021, 1022, 1027-28, 1066-67; and BA, TT 1040, pp. 766-68, 772-73, 813, 817-18, 818, 820-21, 823-24, 825-26, 839, 877, and 883. It is not clear how we should interpret these notices. The deymus that is being agreed to perhaps indicates ‘cash payment’ alone, without any reference to method of assessment. What might have been attractive to these villagers was the fact that the maqtu'-deymus assessment entailed only two yearly payments, as opposed to the three required for the qasim assessment (for this issue, see below in the text). Also, transportation costs to markets may have been a factor here; note that many of the cited notices were for villages situated in more outlying areas. These cases leave us with the impression that the administration and the peasant-cultivators favored different methods of assessment, at least in these cases.

72 The qasimname of the fifth Aleppo tahrir, BA, TT 493, pp. 10-11; also reproduced by Barkan, in Kermanshah, prov. no. 10, p. 208. Note that the twice-per-year collection-period is indicated specifically for the ‘cash deymus.’

73 For some indication of this, see Table 4, above in the text, where the total agricultural tax obligations of the maqtu'-deymus villages are seen to have remained largely unchanged from the third to the fifth tahrirs.

74 This greater prevalence in the early tahrirs is demonstrated for the nahiyas of Jabal Si'lan and Sarmin, in Table 5, p. 278, in Venzke, “Provincial Taxation,” Ph. D. diss. This should not be interpreted as indicating the presence of a more extensive cash economy in the early 16th century, because, at that time, the maqtu'-deymus revenues were frequently being computed and paid in kind. By the time of the fifth tahrir for Aleppo, there was a general decline in the number of maqtu'-deymus villages. Then, only nineteen per cent of Aleppo’s villages (and towns), representing 192 villages out of a total number of 1008, were subject to the maqtu'-deymus assessment, as compared to the 76 per cent subject to the qasim assessment; no method of tax assessment was indicated for the remaining 5 per cent of the villages, many of which were in decline. For these statistics, see ibid., Table 1, pp. 190-92
course of the century, like so very much else regarding this assessment, is simply not known. What is clear is that, the greater the incidence of the *maqta‘-deymūs* assessment, the fewer the opportunities for calculating agricultural yields and conducting comparative analyses based on such yields.

**THE QUESTION OF A MULTITUDE OF MEASURES**

Last, but certainly not least, among the issues that might pose complications for a study of agricultural productivity are the great variety of agricultural weights and measures of capacity seen for the Ottoman Empire. Again, this question of weights and measures goes to the heart of the issue of the 'coordinating mechanisms' that yet remain very much needed before comparative research into the question of agricultural productivity can be successfully undertaken. (It might be noted that such research would naturally prefer for comparisons to be made on the basis of 'in-kind' measures, rather than of their cash equivalences, since the latter is clearly a step removed from the actual yields.) Certainly the plethora of measures that existed can present major problems for any comparative study involving different regions of the Empire. Less well-appreciated perhaps is the fact that different measures for the same crop might also be present within even the same *sanjaq*, as well as what appears to be variations within a single measure, both further complicating the task of comparative study.

In the discussion to follow, we will leave altogether outside of consideration the measures that were used for the minor cereal grains, forage crops, and legumes, for which the individual measure tended to exhibit an even greater variability, and address only the measures used for the primary cereals, wheat and barley, in the *Sanjaq* of Aleppo in the 16th century. The later Aleppo *tahrirs* offer little information on the wheat and barley measures, and the surviving *qanımrınames* (found for the third, fourth, fifth, and sixth *tahrirs*) do not address the subject at all.\(^7\) There-

\(^7\) From the earliest extant Aleppo *qanımrıname* on, TK 3 (a copy of this *tahrir* is also found in the Başbakanhık Archives, Istanbul, catalogued as TT 397; however, its *qanımrıname* has not survived). 2 pp. unnumbered, found at the beginning of the register following its honorific introduction; BA, TT 432, pp. 2-10; BA, TT 493, pp. 8-15 (the last is also reproduced by Barkan, in *Kamullar*, pp. 206-210); and BA, TT 610, pp. 4-11 (significant pagination problems occur here; this *qanımrıname* represents an almost-verbatim version of the *qanımrıname* of TT 493).

It is noteworthy that, for the *Sanjaq* of Tripoli, where the *mekkık* measure for the primary cereal grains was also in use, the *qanımrıname* of the first Ottoman *tahrir* does give some indication of the value of the three different *mekkık*s in use there. The most widespread *mekkık*, the so-named "Tarabulüs mekkık" (Tripoli *mekkık*), was the equivalent of ten Istanbul *kle*. Another *mekkık* had the value of 1.5 Tarabulüs *mekkık*, while the third *mekkık* measure was the equivalent of two
fore, the researcher must dig for information. A cursory examination of the Aleppo tahrirs will reveal that two basic measures of capacity were being used for the primary cereal grains in the 16th century. The more prevalent was denoted simply by a mim ( ) in the later registers. From the earliest Aleppo tahrir (the first two), where this measure is spelled out, one understands that this is the mikkûk measure, rather than the menn or the mudd, which were also measures seen historically for Syria.76

But, which mikkûk measure is this? W. Hinz identified several different mikkûk-measures for Syria and Iraq in the Middle Ages.77 Therefore, we are confronted with the problem of having to choose from among several possibilities.

A limitation on our focus at this point might be useful. If we examine the wheat and barley measures as they are revealed in the fifth Aleppo

Tarîkhûs mikkûk (BA, TT 68, p. 5; another part of this qanûname has also been reproduced by Barkan, in Karnular, pp. 551-52). The first and third-mentioned mikkûks seen for Tripoli are also identified in a later Tripoli qanûname, found in the tahrir TK 203, dated 954/1547-48, a fragment of which Barkan has reproduced in Karnular, as prov. no. 11, p. 215. For the value of the Istanbul kile, i.e., as 20 qa' = 25.656 kg. for wheat, which would give the one Tripoli mikkûk, above, a weight of ca. 257 kg., see Hinz, Islamische Masse, p. 41; and Inalcik, “Ottoman Metrology,” n. 55, p. 330 and p. 333. For the significant variation in the kile that the Ottoman administration allowed in their European provinces, see Inalcik, “Ottoman Metrology,” pp. 330-34.

For the Sanjaj of Damascus in the 16th century, another measure for the primary cereal grains was in use—the ghîrdû. Although this measure is mentioned in the two extant qanûnames of this period, no corresponding value for it was given (BA, TT 263, pp. 6 and 9; also reproduced by Barkan, in Karnular, pp. 223 and 225; and, the same provisions in BA, TT 474, pp. 15 and 19). For the ghîrdû measure in pre-Ottoman Syria and Palestine, see Hinz, Islamische Masse, pp. 37-38; Bernard Lewis, Notes and Documents from the Turkish Archives: A Contribution to the History of the Jews in the Ottoman Empire, Oriental Notes and Studies, no. 3 (Jerusalem, 1952), p. 17; and idem, “Jaffa in the 16th Century, According to the Ottoman Tahrir Registers,” Necati Lüyt Arıtaşım Akkara, 1969, n. 5, p. 437. Mamluk sources equate the ghîrdû of Damascus with approximately 2.5 mikkûk of Tripoli, but which Tripoli mikkûk would this be? The ghîrdû’s approximate weight and capacity in the Mamluk period were, according to Lewis, a little more than 300 kg., of wheat presumably, and somewhat more than 250 litres (Notes and Documents, p. 17); this is also confirmed by Hinz (Islamische Masse, p. 38).

Mamluk sources also equate the ghîrdû of Damascus with approximately 2.5 mikkûk of Aleppo (Hinz, Islamische Masse, p. 45), which would appear, then, to recognize the same measure for these particular Aleppo and Tripoli mikkûks, but one should treat this equating of the two mikkûks with great caution. The Tripoli mikkûk in the Ottoman period, valued at 10 Istanbul kile = more than 250 kg., would appear to have had a considerably greater weight than that attributed to it in the Mamluk period. It should be pointed out, however, that the Damascus ghîrdû would appear to equate correctly with ‘two-and-a-half-times’ the weight of that ‘Aleppo mikkûk,’ of the Mamluk period, valued at 81 kg. for wheat (for this mikkûk, see n. 77, below).

76 For the menn and mudd, weight and volume measures, resp., in historic Syria, see Hinz, Islamische Masse, pp. 16 and 46; and Musbih D. Yusuf, Economic Survey of Syria during the Tenth and Eleventh Centuries (Berlin, 1985), pp. 230 and 231.

77 Islamische Masse, pp. 44-45. In the 14th and 15th centuries, 2.5 Aleppo mikkûk, on the average, corresponded to one Damascus ghîrdû, making one Aleppo mikkûk worth 81.75 kg. of wheat. Earlier, in the 12th century, one Aleppo mikkûk was said to equal 19 sunbul of Shayzar (a town in central Syria located northwest of Hamah), which represented approximately 61 kg. of wheat. Ibid., pp. 44-45 and 37-38. The sunbul measure (to be discussed below in the text), the second of the two primary cereal grain measures seen for the Sanjaj of Aleppo in the 16th century, was seen for the Hatay districts, in the western part of the Sanjaj, located north of Shayzar. The mikkûk and sunbul measures, in the Sanjaj of Aleppo, quite clearly predated the Ottoman conquest.
po tahrir, where a greater standardization in the use of weights and measures is seen, we can identify two great zones for these measures. The larger zone, the mekkûk zone, lay east of the Orontes River (al-'Asî). Within this zone, five mekkûk sub-zones can be distinguished, based on the different cash-valuations seen for their respective mekkûks. Rarely is it indicated in this Aleppo tahrir which mekkûk type was in use. Therefore, the different mekkûk types and their areas of application can only be established by the researcher calculating the per-mekkûk-of-wheat-and-barley cash equivalences for every village and mezra'a where the mekkûk measure was being used. Certainly the computer, but even the hand-calculator, can be most useful in this task. In the end, it was found that a large degree of correspondence existed in this tahrir between mekkûk type and nahîye; one nahîye tended to apply the same mekkûk type, with some exceptions. Such a degree of correspondence between mekkûk type and nahîye simply did not exist in the early registers.

The most prominent mekkûk types found for the Sanjaq of Aleppo in the fifth tahrir were the "Halabî" ('Aleppo') and "Sarmîn" mekkûks, named, one would assume, after the two great market centers of this eastern mekkûk zone, the city of Aleppo and the town of Sarmin.78 The Halabî mekkûk was applied in an extensive, contiguous area representing the easternmost part of this zone, plus in the non-contiguous Nahîye of 'Amaq, to the west. This Halabî mekkûk sub-zone encompassed seven nahîyes: Jabal Sim'an, Mattakh, Jabbûl, Bûb, Manbîj, 'Amaq, and likely Khalaqa.79 The Halabî mekkûk was also applied occasionally in the Nahîye of Sarmin.80 The Sarmînî mekkûk was also found to have been applied in a contiguous area, as represented by four nahîyes: Sarmîn, Jabal Sammaq, Jabal Banî 'Aîm, and Zâwiya.81 This area was, in general, a

78 An indication of the variety and importance of the market activity of Aleppo and Sarmin can be gleaned from their tax-revenue lists (muqââ'ût), in BA, TT 493, pp. 98-101 and 338, resp. Aleppo towered over all towns of northern Syria in terms of its market activity.

79 BA, TT 493, pp. 103-78, 179-93, 194-213, 214-38, 240-93, 596-617 and 562-71, in the order in which the nahîyes are given in the text, above. Because tax requirements in Khalaqa were here expressed as a cash payment, no information on grain measures was available. This tendency toward cash payment was also true for the earlier tahrirs, and therefore, one can not be certain which measure was being applied in this district. In the first tahrir, one finds two villages where the Halabî mekkûk was named as being in use (BA, TT 93, pp. 419 and 421). In the third tahrir, there was only one qa'îm village, which does appear to have used the Aleppo mekkûk, to judge from the given cash valuation, BA, TT 397, pp. 552-58. On this slim evidence, then, rests the presumption that Khalaqa was part of the Halabî mekkûk zone. If this would prove to be incorrect, then Khalaqa would, most likely, be part of the Hurîm mekkûk zone.

80 There it is seen for only two villages in the fifth tahrir, BA, TT 493, pp. 366 and 426-27. It was more prevalent in this district in the earlier tahrîrs. For example, in the first tahrir, it was seen in seven villages, BA, TT 93, pp. 510-11, 513, 516-17, 534, 534-35, 543-45, and 548-49.

81 BA, TT 493, pp. 332-440, 442-69, 470-80, and 482-503, given in the order in which these nahîyes appear in the text, above.
thriving agricultural and market area in the 16th century.

For Aleppo's remaining three mekkûk sub-zones in the fifth tahpir, the mekkûk-type was nowhere named, but it would appear that different mekkûks were in use to judge from their different cash equivalences, although these differences might also be attributable to differences in the quality of the grain. Let us assume that these differences point to differences in the mekkûk measure itself. Accordingly, in the Nahiyeh of Rawandân (or Ravende, in Turkey today), a different mekkûk type was encountered; we might call it the 'Rawandân mekkûk'.

Similarly, in the Nahiyeh of Rûj, yet another mekkûk type was seen; let us call it the 'Rûj mekkûk'. For the last mekkûk sub-zone, we might designate the mekkûk-type there in use as the 'Hârîm mekkûk'; a "Hârîmi mekkûk" was actually named in the early registers. This so-called Hârîm mekkûk was applied in a contiguous area, consisting of the nahiyehs of Hârîm Jabal A'llâ, and Jabal Barîsha, and possibly Khalaqa, if the last is not correctly identified with the Halabî mekkûk zone.

These mekkûk sub-zones of the Sanjaq of Aleppo are represented on Map 2, below, which, for each nahiye, presents the predominant measure there in use, which was not necessarily the only measure in use. It can easily be appreciated how the existence of five mekkûk sub-zones can complicate a comparative study limited even to this Sanjaq. Yet greater difficulties would be encountered were a comparative analysis extended to other sanjaqs, where completely different measures might have been in use, such as the ghîrâra measure seen for the cereal grains in the neighboring Sanjaq of Damascus.

The magnitude of the capacity-difference existing between the afore-given mekkûk measures must also be recognized. The greatest difference found was between the Halabî and Sarmînî mekkûks. The Halabî mekkûk for wheat, in the fifth tahpir, was valued at 130 aqche, while the Sarmînî mekkûk for wheat commanded 300 aqche, over twice as much. Note, again, that we have to rely here upon the aqche-value of a particular mekkûk, because nowhere in the Aleppo tahpirs is the weight/capacity-value of the mekkûk expressed. Simiraly, the Halabî mekkûk for barley was valued at 70 aqche, while the Sarmînî mekkûk for barley commanded 150 aqche, again, more than twice as much. If we look more closely at Aleppo's mekkûk sub-zones, we can see that the smaller-volume mekkûks were found in the eastern part of the Sanjaq.

82 BA, TT 493, pp. 294-330.
83 BA, TT 493, pp. 504-531.
84 BA, TT 493, pp. 536-61, 572-82, and 583-95, in the order in which the nahiyes are named in the text, above. For discussion of the "Hârîmi mekkûk" of the early Aleppo tahpirs, see n. 90, below.
85 For the value of the ghîrâra measure, see n. 75, above.
MAP 2. The Distribution by Nahiyeh of the Wheat and Barley Measures Reflected for the Villages of the Sanjaq of Aleppo in the Fifth Tahir (1570-71).
where they were represented by the Halabi and 'Râwandânı' mëkkâks (the latter was valued at 120 aqche for wheat and 60 aqche for barley). Further west, we see the larger-volume mëkkâks, as represented by the Sarmini, Rûj, and Hârîm mëkkâks. The 'Rûj' and 'Hârîm' mëkkâks were valued at 250 and 230 aqche for wheat, respectively, while both were valued at the same 140 aqche for barley. Again, refer to Map 2 for these locations.

We should perhaps reconsider our prior assumption that the different cash-valuations seen for the mëkkâks did, in fact, denote different-size capacity-measures. Given the rather small difference existing between the cash-valuation for wheat of our so-called Rûj and Hârîm mëkkâks, and the fact that no difference is seen in the valuation of their barley, raises the possibility that these were the same-volume measure, for which the difference in the wheat-cash-valuation was attributable to differences in the quality of the wheat being grown. It is even possible that this 'same-volume' measure was actually the Sarmini mëkkâk, or a variation on it, since the cash-valuation differences between these three mëkkâks are not very great. Similarly, our so-named Râwandân mëkkâk may actually represent a variation on the standard Halabi mëkkâk. If this speculation were to prove correct, then the Sanjaq of Aleppo would be characterized by only two mëkkâk zones in the fifth tahrir—the Halabi and Sarmini. Regardless of the case, it is of great interest that, not only did there exist, at the very least, two mëkkâk sub-zones, but these zones also reflected a truly significant capacity difference—more than twofold, to judge from their cash valuations. To what do we attribute the significant difference seen in these two mëkkâks? Simply to custom? Was crop quality not a factor? Certainly minor cash-valuation differences in the mëkkâk might be attributable to crop quality. Or, does it reflect differences in productivity? It is true that the areas in which the smaller Halabi and 'Râwandân' mëkkâks were in use normally experience less rainfall than the areas further west. 86

Aleppo's second zone, in the fifth tahrir, for the wheat and barley measures would appear to be that of the sunbul, which represented a considerably smaller-volume measure than the mëkkâk. The sunbul zone, which was also far-less extensive than the mëkkâk zone, lay north

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86 We have no reason to think that there was a conscious policy on the part of Ottoman administration to apply here different capacity measures in an attempt to 'equalize' the revenues being received by the provincial cavalry or Ottoman officials in the Sanjaq, as the administration was known to do, on occasion, when local cereal prices varied sharply from place to place (see n. 91, below), because, in the higher-volume Sarmini mëkkâk zone, tax requirements tended to be paid in cash, while they were, more frequently, being paid in kind in the smaller-volume Halabi mëkkâk zone, just the opposite of what an administrative intervention would have provided.
and west of the Orontes River, where it was seen as a uniform zone. Actually, this zone can largely be identified today with Turkey’s Hatay Province, excepting its southernmost area, which remained part of Syria after the cession, by France, of the Hatay to Turkey in 1939. In the six nahiyes where the sunbul was being applied—Antakya, Suwayda (today, Samandağ), Altün Üzi, Jabal Aqra, Qusaýr (part of which lay east of the Orontes River), and Shugr--, it was valued uniformly at 22 "açhe" for wheat and 11 açhe for barley. This sunbul zone is shown on Map 2, above. The great disparity existing between the sunbul and mekkāk measures makes difficult any attempted comparative analysis of the productivity of the primary cereals limited to the Sanjaq of Aleppo alone, and certainly, the problem is compounded by the apparent capacity-differences seen within the mekkāk measure itself.

On top of the problems that have thus far been identified on the basis of only one Aleppo tahrir, the fifth, one would also have to contend with the fact that, in the earliest Aleppo tahrirs, there was less correlation of a particular measure with one nahiye; several measures might be

87 BA, TT 493, pp. 633-59, 660-71, 672-704, 705-34, 736-805, and 806-57, given in the order in which these nahiyes appear in the text, above. The 1:19, “Aleppo-mekkāk” to sunbul, ratio seen for Syria in the 12th century, which gave the sunbul the value of 3,206 kg, vis-à-vis an “Aleppo mekkāk” valued at ca. 61 kg of wheat (Hintz, Islamicische Masse, pp. 44 and 51), is not seen reflected between any one of the five mekkāk types and the sunbul seen for the Sanjaq of Aleppo in the 16th century, to judge from their given cash equivalences. The ratio existing between the “Habash mekkāk” and the sunbul, in the 16th century, ranged between 1:6 and 1:5 for wheat, and between 1:7.5 and 1:5 for barley, based on their cash equivalences in tax registers three through five (for these ratios, see Table 5, below in the text). Obviously the “Sarmiš mekkāk” would more closely approximate the “sunbul,” the Sanjaq tahrirs, as reflected by their cash equivalences in registers three through five, ranged between 1:10 and 1:13.6 for wheat and 1:12 and 1:15 for barley (see Table 5, below). Despite this closer approximation based on the Sanjaq mekkāk, we should perhaps reconsider whether the identification of the sunbul here is a correct identification. It is possible that the “šinhīk,” a larger-volume measure than the sunbul, which, as half the value of the kile, = 12,838 kg, (see Lālāk, “Ottoman Metrology,” p. 324, n. 55, p. 330 and p. 333), should be read for “sunbul”; the problematical terminal letters of words written in the šīqāt script, in the tahrirs, can admit the possibility of confusion between the letters šef and šim. There is, however, evidence that would appear to go against this “šinhīk” identification. The author found two cases where what appeared to be the “sunbul” measure was being used as if it were a sub-unit of the mekkāk to express, in both cases where what appeared to be the “sunbul” measure was being used as if it were a sub-unit of the mekkāk to express, in both cases, the barley tax requirement. These cases were found for districts on the northern periphery of the Sanjaq of Aleppo: one for a village of A’azā in the first tahrir, the other for a village of Manbij in the fifth tahrir. For both cases, the ratio between the mekkāk and the “sunbul,” specifically, for the “A’azāt” mekkāk valued at 150 and 100 açhe for wheat and barley, and the “Aleppo” mekkāk valued at 130 and 70 açhe, resp., was ca. 1:16, which comes close to approximating the ratio of 1:19 found in the 12th century. In the first case, sunbul appeared as “şunbul”, while the word appeared without dots in the second case (BA, TT 93, pp. 240-41, and TT 493, p. 288).

Note that the northern districts, above, are located quite some distance from central Syria, where the sunbul was found in the Middle Ages. Is this the same “sunbul” as that seen for the Hatay districts, which are situated much closer to central Syria, in the same period? If so, then, we would appear to be seeing significant capacity-differences in the same basic measure. What the Hatay districts and the two northern districts had in common was a strong tribal element among their population, which was still very much in evidence in the 16th century. Or, are we seeing two entirely different measures? These questions can not be answered.
seen, in use, in the same nahiye. This situation persisted until the third tahrir, dated circa 1536-37, i.e., twenty years after the Ottoman conquest, when the volume measures were applied more uniformly by nahiye. At this time, the sunbul measure made its first appearance, in the same nahiye situated west of the Orontes River, at a cash valuation of 20 aqche for wheat and 8 aqche for barley. The contemporary Halabî mekkûk, valued at either 110 aqche for wheat and 60 aqche for barley, or 100 aqche for wheat and 60 aqche (sometimes also 50 and 40 aqche, but the latter is rare) for barley, enjoyed a greater area of application than it was to have in the fifth tahrir. In addition to the seven nahiyes identified with the Aleppo mekkûk in the fifth tahrir, Râwandân, Zâwiya, and Jabal Bani 'Alîm (these last two nahiyes, however, each had only one qasîm village, and hence, only one example of the measure) also applied this mekkûk; and, it was also seen in the 'mixed- mekkûk' districts of Hârîm, Jabal Barîsha, Jabal Aîlâ, and Sarmin. A second mekkûk zone, represented by the larger-volume Sarminî mekkûk, valued at 200 aqche for wheat and 100 aqche (sometimes also 120 aqche) for barley, can be identified for the districts of Jabal Sammâq (seen for its one qasîm village) and Rûj, and for the 'mixed- mekkûk' districts of Sarmin, Jabal Barîsha, Jabal Aîlâ, and Hârîm.

H. İnalçîk has observed that it was Ottoman administrative policy to achieve a standardization of weights and measures within a sanjak, often by extending a local measure to the whole sanjak and defining it in terms of an official Ottoman equivalent, although such standardization was not always achieved. Despite the greater standardization that was being achieved in the Sanjak of Aleppo in the later tahrirs, the fact that the collective villages of a nahiye often did not enjoy a basic continuity with one particular measure, from the earliest to the latest tahrirs, was not always achieved. Despite the greater standardization that was being achieved in the Sanjak of Aleppo in the later tahrirs, the fact that the collective villages of a nahiye often did not enjoy a basic continuity with one particular measure, from the earliest to the latest tahrirs, was not always achieved. 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raises significant problems for a study of agricultural productivity. There exists for the Sanjaq of Aleppo the additional problem that the first tahrir for the Hatay nahiyes appears not to have survived.\(^{92}\) Therefore, this gap in the record exercises a further limitation on comparative analysis.

Let the following examples for the Sanjaq of Aleppo illustrate the inconsistencies that one might encounter for the wheat and barley measures in the tahrirs. First, the Halabî mekkûk was seen over a wide area of the Sanjaq in the first tahrir. For the Nahiyeh of Jabal Sim'an, where it was consistently applied, as for the Nahiyeh of Sarmin, where it was sometimes found, its cash valuation remained uniformly at 120 aqche for wheat and either 100 or 96 aqche for barley. We find, however, other cash valuations for the Halabî mekkûk elsewhere in the Sanjaq at this time; recognize that, identification of these cases rested on those 'few' instances where the mekkûk type was actually named. For example, we see a Halabî mekkûk for wheat, valued at 144 aqche, in the nahiyeh of Harîm and Jabal Barîsha,\(^{93}\) while elsewhere in Jabal Barîsha, it is seen valued at 120 aqche for wheat.\(^{94}\) It is seen valued at 148 aqche for wheat in the Nahiyeh of Khalaqa.\(^{95}\) Are we seeing, in these examples, the same Halabî mekkûk that was present in Jabal Sim'an and Sarmin? If so, then the differences in cash valuation might appear to be attributable to differences in grain quality. Or, are we seeing minor variations in capacity for the same mekkûk measure? Recognize that, adding to this confused picture, is the existence of a contemporary "A'zâzi mekkûk," valued at 144 aqche for wheat.\(^{96}\) Is this not the same measure as the Halabî mekkûk of the same valuation for wheat? In contrast, the Sarmini mekkûk appears to have enjoyed a more uniform cash valuation. For example, where it is named, in the first tahrir, in the Nahiyeh of Rûj,\(^{97}\) it had the same cash valuation of 300 aqche for wheat and 200 aqche for barley as seen for the measure in the Nahiyeh of Sarmin. In sum, we learn from these examples that the same-named measure may connote various cash valuations in the same time period. And conversely, it also appears that the 'same-volume measure' may have been called by different names, depending upon the location. This may signify no more than local pride; why should the inhabitants of the A'zaz region choose to call their mekkûk the Halabî, when they might call it the A'zâzi? It is also easy to appreciate how such confusion might have arisen, quite naturally, out of

\(^{92}\) The author has not been able to find these districts in any of the other early Ottoman tahrirs.
\(^{93}\) BA TT 93, pp. 384-85 and 436.
\(^{94}\) BA, TT 93, p. 442.
\(^{95}\) BA, TT 93, p. 419.
\(^{96}\) This is seen for the town of A'zaz, BA, TT 93, p. 204.
\(^{97}\) BA, TT 93, p. 445.
the inquiries, made by Ottoman officials conducting a cadastral survey, to local inhabitants regarding the weights and measures in use in their area.

Similarly, it can be seen that the 'unnamed' mekkûk, which is the usual situation encountered in the Aleppo tahrirs, can vary significantly, in terms of its cash valuation, within even the same nahiye, in this first Aleppo tahrir. For example, in the small nahiye of Jabal Barisha, the unnamed mekkûk for wheat might be valued at a high of 288 aqche, or 240 aqche. Also in this district, the Halabi mekkûk was in use, valued at 144 or 120 aqche for wheat. In the nahiye of 'Amaq, the unnamed mekkûk for wheat also ranged widely in its cash valuation, from a high of 288 aqche to 210, 144, 124, and 120 aqche. We are seeing here quite a significant range of variation.

To present another example of the inconsistency encountered for the volume measures in the Sanjaq of Aleppo, the sunbul measure was in use in the Hatay nahiye of Shughr in the third, fourth, and fifth tahrirs, while the mekkûk measure was in use in the second tahrir. It would be interesting to know what measure had been applied in Shughr in the first tahrir. We have previously noted that, in the fifth tahrir, Hārīm and its neighboring nahiyes applied the same mekkûk measure—what we have designated as the 'Hārīmı' mekkûk—, which appears to represent yet another mekkûk type. There is actually a mekkûk designated as the 'Hārīmı' in the earliest Aleppo tahrir, where it is seen occasionally in the neighboring nahiyes of Hārīm and Jabal A'lā, with a variable cash valuation for wheat of 300 or 288 aqche. At a 300-aqche valuation for wheat, the one Hārīmı mekkûk would appear to be the same measure as the contemporary Sarmīnı mekkûk (see Table 5, below). It is interesting to find that, in the town of Hārīm itself, the "Qusayrı mekkûk," with a cash valuation of 288 aqche for wheat, the same valuation seen for the

98 BA, TT 93, pp 436; 441: 436, 437, 442; and 442, resp. The same range of rates, excepting the 144 aqche rate, is also seen for the small nahiye of Jabal A'lā (ibid., pp. 425-35, passim).
99 BA, TT 93, pp. 345-81, passim.
100 From the second tahrir on, BA, TT 1040, pp. 384-459; TT 397, pp. 434-68; TT 454, pp. 625-26, 653, 656, 656-57, 661, 669-70, 670, 744, and 751-52 (the citations from this last tahrir reflect villages and towns of the Hatay nahiyes that showed some artisanal or market activity, as well as use of the sunbul measure, because the author, in this case, did not consult systematically the data for the nahiyes of Shughr, in this registry); and TT 493, pp. 806-857. The mekkûk applied in Shughr in the second tahrir had a valuation of 352 aqche for wheat and 128 aqche for barley. This represents a cash valuation for wheat that was 76 per cent greater than that seen for the contemporary Sarmīnı mekkûk. Which mekkûk is this one? Since this mekkûk would appear to represent a larger volume than the Sarmīnı mekkûk, to judge from its greater cash valuation, this mekkûk would come closer to approximating the 'one-Aleppo-mekkûk-to-19-sunbul' ratio identified as present in Syria in the 12th century (for this ratio, see nn. 77 and 87, above).
101 BA, TT 93, pp. 401 and 431.
102 BA, TT 93, p. 384. Altogether in the nahiye of Hārīm, three different mekkûks are named in this first tahrir: the Qusayrî, Halabi, and Hārīmı, with cash valuations for wheat of 288, 144, and 300 aqche, resp. (ibid., pp. 384, 385, and 401).
second of the Hārīmī mekkāḳs above, was in use. This mekkāḳ apparently takes its name from the neighboring Nahiye of Qusayr, or from one of its villages, Qa‘at al-Qusayr; this district was part of the Hatay area, which was not recorded with the Sanjaq of Aleppo in this tahrir. Were these Hārīmī and Qusayrī mekkāḳ truly different measures? In short, was there actually a Hārīmī mekkāḳ, or was this mekkāḳ not masquerading for the Qusayrī and Sarmīnī mekkāḳs?

If one were to follow the trail of the mekkāḳ type applied for wheat, successively, in the town of Hārīm, it would be found that, first, the Qusayrī mekkāḳ, at a cash valuation of 288 aqche, was in use, next, what appears to be the "Misrī" (this was, very likely, mis-written or mis-read for "Qusayrī") mekkāḳ, at a 200-aqche valuation, was seen, followed, in the third tahrir, by the Hārīmī mekkāḳ, at a 200-aqche valuation. These 200-aqche valuations for wheat were also seen for the Sarminī mekkāḳ in the same time period. However this particular greater-volume mekkāḳ measure in the Nahiye of Hārīm was being designated in the first three tahrirs, it either closely followed or else actually reflected the same cash-valuation seen for the contemporary Sarminī mekkāḳ. In the fourth and fifth tahrirs, however, the mekkāḳ in use in the town of Hārīm was not named, but, at cash valuations for wheat of 210 and 230 aqche, respectively, it fell behind the contemporary valuations for the Sarminī mekkāḳ (for these, see Table 5, below); for this reason, the author chose to maintain the distinction of a separate 'Hārīm' mekkāḳ, although this may not actually be the case. What is clear is that a greater variety of mekkāḳs were in use in the early tahrirs, and frequently within the same nahiye, and therefore, there was often no basic continuity of one mekkāḳ type with the same area over time; certainly, continuity should never be assumed. Similarly, we have seen that one can not trust that the 'named' mekkāḳ had the same cash valuation, from place to place, in the same time period. The discontinuity, inconsistencies, and simply the problems identified for Aleppo’s measures seriously deter undertaking a comparative analysis of crop productivity or production, whatever the territorial or time focus, based on the in-kind tax requirements expressed in terms of these measures.

Given this situation, it would be wise to take another approach, namely to base such an analysis on the given cash equivalences, in which terms Ottoman tax requirements on the cereal grains were also expressed.

103 BA, TT 93, p. 384; TT 146, p. 1002; and TT 397, p. 496.
104 BA, TT 454, p. 466 and TT 493, p. 536. It is interesting to note that, in all five tahrirs, the wheat obligation for the town of Hārīm remained the same, at twenty mekkāḳ, regardless of mekkāḳ type!
We can, a priori, anticipate problems with this approach, too. Obviously, devaluation and the debasement of the aqche must be taken into account, as well as price inflation. These factors did not become acutely important until the late 16th century, when the full force of the "price revolution" convulsed the Empire, but, even so, we are still lacking a reliable evidential record that plots these factors over the course of the century. A more fundamental objection, again, is that this approach is, quite simply, one step further removed from the reality of actual agricultural yields. Another shortcoming of this approach is that it completely obscures the differences in crop quality that might have occurred, which, in turn, may have been responsible for the different cash valuations seen for the same measure. Yet another factor that needs to be considered is the fact that Ottoman administration did make periodic changes in the cash-valuations of both the mekkâk and the sunbul measures, in the Sanjaq of Aleppo, over the course of the 16th century. This is a factor that can easily be documented. Table 5, below, sets out these changes, for the Halabi and Sarmini mekkâks, which became the leading mekkâk measures for the Sanjaq of Aleppo in the later tahrirs, if not earlier, as these mekkâks appeared in the nahiyes of Jabal Simlân and Sarmin, and for the sunbul measure, which was applied consistently in the Hatay districts from the time of the third tahrir, and at uniform cash valuations.

As Table 5 demonstrates, the aqche-valuation per measure tended to change with each tahrir. Therefore, for any comparative analysis focused over a period of time, it is imperative to determine, first, the changes that occurred in the aqche-valuation per measure with each new tahrir. Increases in the aqche-valuation of a measure in a later tahrir, for example, might lead one to believe, mistakenly, that higher yields had occurred, when, in fact, this may not have been the case. In other words, higher agricultural revenues were possible simply because of such increases. Our task, then, is to distinguish the actual increases (or decreases) in productivity or production from the 'apparent' increases (or decreases), which were caused solely because of changes made in the cash-valuation of a measure. We also need to gain some further perspective on this issue and ask ourselves what these changes in cash-valuation actually reflect. Do they reflect a fluctuation in prices, and we might note, again, that the price history of the Ottoman economy remains yet to be written, or do they reflect anticipated changes in the level of agricultural production, or some other factor?
TABLE 5.-- The Changing Cash Valuation (in Aqche) of the Halabi and Sarmini Mekkûks and of the Sunbul as Reflected for the Nahiyes of Jabal Sim'an, Sarmin, and Shughr, Resp., in the First Five Aleppo Tahrirs

<table>
<thead>
<tr>
<th></th>
<th>(1570-71)</th>
<th>(1551-52)</th>
<th>(1536-37)</th>
<th>(1526-27)</th>
<th>1519-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mekkûk</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Halabi:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>130</td>
<td>110 (also 120)</td>
<td>110,100</td>
<td>120,100</td>
<td>120</td>
</tr>
<tr>
<td>Barley</td>
<td>70</td>
<td>55 (also 60)</td>
<td>60,50,40</td>
<td>60,50</td>
<td>100,96</td>
</tr>
<tr>
<td><strong>Sarmîn:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>300</td>
<td>250</td>
<td>200</td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td>Barley</td>
<td>150</td>
<td>150</td>
<td>120,100</td>
<td>100</td>
<td>200</td>
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<tr>
<td><strong>Sunbul:</strong></td>
<td></td>
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<tr>
<td>Wheat</td>
<td>22</td>
<td>20</td>
<td>20</td>
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</tr>
<tr>
<td>Barley</td>
<td>11</td>
<td>10</td>
<td>8</td>
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</tr>
</tbody>
</table>

SOURCE: BA, TT, 493, TT 454, TT 397, TT 146 and 1040 (these are companion volumes; the Nahiye of Jabal Sim'an is found in the former, while the nahiyes of Sarmin and Shughr are found in the latter), and TT 93, starting with the latest tahrir.

NOTE: Note that these cash valuations are based on the data for the three nahiyes--Jabal Sim'an, Sarmin, and Shughr--that served as a control group for the first five Ottoman tahrirs, plus the market and artisanal towns and villages of the Sanjaq. Note that Shughr was not recorded with the Sanjaq of Aleppo in the first tahrir, and that it employed the mekkûk measure in the second tahrir.

From this table, we see confirmation of the fact that different cash-valuations might occur for the same mekkûk measure within even one nahiye, in the same time period, particularly in the case of barley. One should note that, in the tahrirs, when and where the measure type is actually named, it is usually named only for the wheat measure. We surely can assume that the same measure was being used for the barley as well. It is noteworthy that the cash valuation for barley was considerably lower than that for wheat.

It started out, in the first tahrir, having its strongest valuation vis-à-vis wheat, but that valuation fell to about-half the value of wheat in the second tahrir. This valuation of barley at about-half wheat's value was maintained in the later tahrirs (see Table 5 and Map 2), and the valua-
tion itself reflects a long-held Islamic practice. Moreover, wheat has always held pride of place in Syria's agriculture, as it does today, with barley being of secondary importance. Finally, barley has traditionally been cultivated in Syria as a fodder crop, which accounts for its 'secondary status.'

The general trend that can be discerned for the cash-valuations of the wheat and barley measures in the Sanjaq of Aleppo is that these measures started out with a relatively high cash-valuation in the first tahrir, then, they dipped to a lower valuation in the next two tahrirs, and finally, in the fifth tahrir, the valuations either equalled or exceeded the valuations of the first tahrir, while the valuations for barley still lagged behind those seen in the first tahrir, despite having increased. The increases in cash-valuations seen at this time are an interesting phenomenon, because they do not mirror what we know of the contemporary price history of the Ottoman Empire, where prices inclined up slowly, but steadily, over the course of the century, only to jump dramatically after the major debasement and devaluation of the åche between 1584-86.

Why the higher cash-valuations for the early period of Ottoman rule in Syria? This might reflect, simply, Ottoman expectations concerning the agricultural bounty of newly-conquered Syria, which may, very well, have been 'inflated expectations' in view of the economic devastation that

105 Cahen, "Kharidj," pp. 1031-32, for the issue of tu'tir.
107 The English physician Alexander Russell, writing of the Aleppo region in the 18th century, noted that horses were everywhere being fed barley (The Natural History of Aleppo, 2 vols., 2nd ed., rev. (London, 1794), vol. 1, p. 74). A. R. Hamidé notes of the Aleppo region in the 1950s that barley was reserved for the feeding of oxen and other livestock. However, in his noting that it was no longer being mixed with wheat in the making of bread (Alep, p. 278), he appears to 'leave room' for some use of barley for human consumption in the past.
108 Barkan, "Price Revolution," pp. 8-11, and particularly Table 2, p. 11 and Graph 1, p. 15, for the dramatic inflation beginning in the 1580s. The author has no specific information on the local price history of the Aleppo region at this time, but there is some scant evidence of the devaluation of the silver åche locally. The evidence suggests that, while the gold coin (altun) of Aleppo held steady at about 3.48 gr. of weight from the year 926/1519-20 to 976/1566-67 and to 982/1574-75 (Artuk and Artuk, İslami Sikkeler, pp. 514, 533, and 547), the åche steadily lost its exchange value. If the revenue recorded for the salt works (menelhah) of the Aleppo Nahije of Jabblıd can serve as a guide in this matter, that revenue was recorded as 10,000 altun or 500,000 åche in the earliest tahrir, dated ca. 926/1519-20 (here, 1 altun = 50 åche); confirmation of this exchange rate, where, however, the gold coin is designated as the eshref, is seen elsewhere in this register, BA, TT 93, p. 33); and, in successive registers, where it was recorded only in åche, that revenue was 600,000, 600,000, 700,000, and 160,000 åche. In the fifth tahrir, dated 978/1570-71 (this last revenue figure no longer can bear any relationship to the exchange rate) (BA, TT 93, p. 114; TT 146, p. 127; TT 397, p. 77; TT 434, p. 173; and TT 493, p. 195). There is an indication, in the fifth Aleppo tahrir, that the altun may have been valued at 80 åche at that time (see TT 493, the notes for the villages of Nayrab and Kafr Latiyy, pp. 344 and 472). The earliest Damascus tahrir, dated ca. 932/1525-26, values the altun at 52 åche (TT 430, pp. 456-57). Cf. the altun/åche exchange rates in Barkan, "Price Revolution," pp. 12-15, and n. 2, pp. 17-18.
Syria was said to have suffered in the late Mamluk period.\footnote{109} It also might reflect actual crop productivity to some degree, although we might hesitate to credit the very early Ottoman period with higher yields than those achieved later on in the 16th century, considering the aforesaid economic devastation. Yet, wheat production in Jabal Sim'an did show a clear decline at mid-century,\footnote{110} if the statistics of the tahrirs are a credible guide. Nevertheless, we must maintain some degree of suspicion regarding these 'apparently' higher production levels seen for Aleppo in the early Ottoman tahrirs. Suspicion, once felt, enjoys no easy containment. It obviously casts some shadow over all of the statistics provided by the Ottoman tahrirs, even statistics we believe to be more credible, such as those from the time of the third Aleppo tahrir (ca. 1536-37) forward. But, on what basis do we believe these later statistics to be more credible, outside of the little interior evidence that we might garner from the registers in question and the supposition that it takes some time for a new administration to 'get its feet on the ground'? In the author's previous investigation into Jabal Sim'an's wheat production, some correlation was found to exist between the given cash valuation of the mekkāk and the level of agricultural revenue being generated, and this is perfectly reasonable. No correlation with actual agricultural production, however, was found. When Jabal Sim'an showed a relatively strong wheat production in the third tahrir, the cash-valuation for a mekkāk of wheat was lower than previously; in the next tahrir, where wheat production showed a decline, the cash-valuation for the mekkāk had remained basically the same.\footnote{111}

\footnote{109} Indications of political mistrust, economic oppression, and natural disasters affecting Syria can be gleaned from the chronicle of Muhammad ibn Ahmad ibn lyāks. *Journal d'un bourgeois du Caire: chronique d'Ibn Fadl*, trans. Gaston Wiet, 2 vols. (Paris, 1955-60), at, for example, in vol. 1 (1955), pp. 12-13, 14-15, 21, 68-70, 133, 228, 331, 371-72, 378-79, 398, 413-14, 415, 416, and 427-28. The Ottomans themselves gave notice of economic devastation, at least in the region of Tripoli, when they drew up the first tahrir for the Sanjūq of Tripoli. In the gensusname of this first register, they indicated that the Vilayet (Province) of Tripoli had formerly had 3,000 "köy ve qaray" (villages), but most of these had fallen into a state of ruin because of the great incidence of oppression and bid'at ("innovation"); this frequently appears as the 'whipping boy' of upright Islamic administration; whether it is to be taken literally is another question), resulting in only 800 villages surviving as living villages 'at present' (BA, TT 68, p. 6; also reproduced by Barkan, in *Karenlar*, prov. no. 9, p. 552, but a part of the provision is here missing). This 800-village count is confirmed by the author's count of 784 populated and 41 unpopulated villages, for a village total of 825, for the Sanjūq in this register. Consequently, it would also appear that Ottoman administration intended, in this notice, the 'Sanjūq' of Tripoli, as opposed to the Province of Tripoli, which would have included other sanjūqs.

\footnote{110} Vemke, "Declining Cereals' Production," pp. 251-64, passim.

\footnote{111} Ibid., pp. 255-60.
CONCLUSION

In conclusion, the cornucopian data offering of the Ottoman tahrirs is, for the researcher, both the epicure’s delight and the ascetic’s dyspepsia. There is so much data to feast on, but what should be, then, an unquestioned pleasure can also become a burden and discomfort, given the inconsistencies, shortcomings, and occasional idiosyncrasies posed by the data. It is quite possible that the promise of the tahrirs can not be fully realized. But, this is the challenge, which should be accepted. To recognize the difficulties that the tahrirs can pose, however, by no means invalidates this source, which, within its limitations, is extraordinary rich, depending upon the care, effort, and methodology taken with the data. At the same time, it needs to be acknowledged that the quality of the tahrirs does vary, and sometimes quite greatly. The tahrirs conducted for areas of the Ottoman Empire that were frontier and remained frontier or that were conquered after the 16th century may, very well, have been less carefully executed, resulting in their data being far-less reliable. In such cases, extreme caution needs to be exercised. And, the earliest Ottoman tahrirs, because of their age and their representing the first attempts at surveying new areas and at introducing Ottoman administration, often at a time when administrative practices were themselves in a formative stage, may also be less reliable, although of great interest nevertheless. But, these cases are surely not in the majority.

What can be said, generally, about the tahrirs is that their very existence, the volume of their data, and the long 'tahrir-series' that survive for quite a few areas of the Ottoman Empire create a 'double-burden' for the researcher. The first burden is that one can not easily speculate on population or crop production patterns (or whatever else that lies within

112 In examining the rural economy of Ottoman Podolia, in a tahrir for Kamaniche dated 1681, one such example of a late conquest of a frontier area, which, moreover, was not held for long, D. Kolodziejczyk discovered that the given tax and population statistics had a certain 'utopian' quality. He concluded, contradictorily it might seem, that this tahrir was nevertheless a reliable economic source within certain limitations ("Defter-i Mifâsat of Kamanîçe [1681] as an Economic Source for Agricultural Production in the 17th-Century Ukraine," Osmanlı Araştırmaları/The Journal of Ottoman Studies, XIII (1993), pp. 91-98.
the purview of the tahrirs) for areas of the Ottoman Empire in the 15th and 16th centuries knowing that the evidence for at least some degree of proof or refutation of such speculation exists in the tahrirs. In short, how can one justify speculation in the face of a body of evidence that beckons to be exploited? The second burden posed by the tahrirs is that they do not offer up their evidence easily. They are, quite simply, very difficult to exploit in a fundamental way.

Again, as an overall conclusion, the author has serious reservations about a 'team-effort' exploitation of the tahrirs, because of the many difficulties that the tahrirs can pose, of which some have been revealed here in this study. Although these difficulties do not pose permanent, impenetrable barriers, they do represent some degree of barrier nevertheless. They do not foreclose the possibility of a systematic team investigation of a sweeping area, but they complicate the success of such an undertaking. In contrast, the more fruitful avenue to scholarly success and reliable results, the author believes, lies with the long-existing individual inquiry into one particular area over a period of time, with, however, one significant difference. That difference is that there needs to be a greater coordination between researchers working on such projects and of the results they obtain. The computer program, developed under the auspices of Professors W.-D. Hütteroth and Nejat Göyünç to facilitate a more coordinated exploitation of the data offering of the Ottoman tahrirs, represents a significant step in this direction. Other means for a yet-greater coordination need to be considered.

These efforts notwithstanding, the Ottoman tahrir defterleri pose particular problems for and place limitations on research. As it has been demonstrated in this present inquiry, the Ottoman tahrir defterleri appear to be a rather imperfect vehicle for determining agricultural productivity. But, reservations aside, there is much to be gleaned from a careful exploitation of the Ottoman tahrir defterleri. Indeed, the basic foundation for an economic history of the Ottoman Empire in the 15th and 16th centuries and a history of its land/taxation system, and the administration of it, rest squarely on the Ottoman tahrir defterleri. We need to proceed with this source, but with caution.