

Fayyum Agriculture at the End of the Ayyubid Era: Nabulsi's *Survey*¹

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Introduction

AS STUDENTS OF MEDIEVAL EGYPT will know, but others may not, the author whose work is discussed here, 'Uthman ibn Ibrahim an-Nabulsi ('the man from Nablus'),² was a government official who by special appointment of one of the last Ayyubid sultans, as-Salih Ayyub (1240–9), made an investigation of Egypt's Fayyum province with a view toward improving its diminished agricultural productivity. He conducted his investigation around the year 641 of the Hejira, AD 1243–4. One result was his detailed survey of the province, *Tarikh al-Fayyum*, which in all but its last revisions is thought to date to AD 1245. It is, in Stephen Humphreys' words, 'as close as we will ever get to an official tax register for Mamluk Egypt'.³

This notwithstanding, Nabulsi's *Survey* has attracted only sporadic scholarly attention. This may simply be a function of the general absence of interpretive studies of Ayyubid and Mamluk fiscal documents.⁴ But even in existing larger studies, Nabulsi's *Survey* tends to be a contributory source, not the focus of direct attention for its own sake. It naturally finds its place in lists of sources for the study of Ayyubid fiscal practices;⁵ but its geographical circumscription,

¹ Arabic numerals in the parentheses of my text refer to page numbers in Moritz (1899). Inasmuch as this paper is a product of research in its initial stages, references are exemplary rather than complete.

² For convenience' sake, he is referred to in this paper in abbreviated form as, simply, Nabulsi.

³ Humphreys (1991), 174.

⁴ Humphreys (1991), 170, cf. 185–6.

⁵ Rabie (1972), 16–17.

the Fayyum province, and its rare allusions to the outside world make it a document easily overlooked by historians of the medieval Egyptian economy, who have been primarily interested in the wider world of trade and commerce. For Nabulsi's intensely local concentration is only occasionally broken—as, for example, when he compares the village gardens of Akhsas al-Hallaq in the Fayyum with those of Damascus (38) or Abuksa's vineyards and date-palms with those of the Hijaz (46). The author includes occasional antiquarian excursions: there is a long one, for example, on the Pharaonic pedestal bases at Biahmu (66–7). There are also occasional historical asides, like that on the price spiral in the reign of the Fatimid caliph al-Mustansir (AD 1036–94), leading to the desertion and eventual resettlement of the village of Talit (128; see Appendix below).⁶ But despite such wider points of reference, Nabulsi's temporal focus is decidedly his own present, and his geographical focus is restricted to the province he was assigned to investigate.

Paradoxically, it is these very geographical and temporal limits that should make the *Survey* an attractive document for historians of Graeco-Roman Egypt. This is because the Fayyum, especially the villages on its edges that were abandoned in late antiquity, has been a major provenance for Greek and demotic Egyptian papyri. These began to be recovered in great numbers toward the end of the nineteenth century as modern Egypt strove to reclaim and to fertilise land that had long lain out of cultivation.⁷ Fittingly, the Fayyum papyri recovered both by peasant diggers and by European and American excavators provide the historian with the best, and often the only, evidence for studying the agriculture and village life of Ptolemaic and Roman Egypt.⁸ There is little doubt that Nabulsi's *Survey*, with its wealth of information on medieval Fayyum villages, would provide the ancient historian with valuable reference points against which to assess the papyrological evidence on ancient agriculture.⁹ But Nabulsi remains largely inaccessible because ancient economic historians who use papyrological evidence tend not to know Arabic. One of my purposes here then is to make a beginning at bridging this gap by drawing ancient historians' attention to the existence of Nabulsi and the possibilities of his text; but a more important purpose is to summarise the kinds of agricultural information in Nabulsi, to the extent that this can be separated from the strictly fiscal information that has more often drawn the attention of those scholars who have earlier made use of his *Survey*.

⁶ As part of the general political, military, demographic, and agricultural crisis in al-Mustansir's reign: Ashtor (1976), 206–7; Cuno (1992), 20.

⁷ Deuel (1970), 79–189; Turner (1980), 17–41; Turner (1982).

⁸ E.g., Rostovtzeff (1922), for Ptolemaic Philadelphia; Crawford (1971), for Ptolemaic Kerkeosiris; Rathbone (1991), for Roman Theadelphia.

⁹ The fit is not perfect. As mentioned, the papyri come from and largely concern villages on the Fayyum's fringe, not those of its central areas. Nabulsi's Fayyum is a shrunken one, the ancient fringe villages having been reclaimed by the desert well before the author's time.

Most important for both purposes is Nabulsi's tenth chapter, easily the longest in the *Survey*, beginning on page 26 and continuing for some 150 pages to the effective end of the work. Here Nabulsi provides an alphabetical gazetteer of Fayyum villages, establishing, if ever proof was needed, that the village was 'the basic unit of social and economic reproduction' in medieval Egypt, and the traditional unit of administration and taxation.¹⁰ The choice of an alphabetical arrangement,¹¹ typical of Arabic cadasters, suggests a design suited to bureaucratically purposed ease of reference. But the *Survey* throughout is written, in the text as we have it, in 'continuous script' (*scriptio continua*), with little special highlighting¹² and with no special formatting of the assorted village tax-lists. Numbers and fractions are all written out in full, not in cipher. Thus it should have been relatively easy for the user to locate any given village described in the *Survey*, but locating specific information within the village's entry must have required a careful line-by-line reading. In such an effort the user of the *Survey* would have been helped by the predictability with which Nabulsi orders the information in his individual village entries (see below).

Chapter 10 begins with a long description of the provincial capital, Madinat al-Fayyum (26–31); it is followed by entries for about a hundred taxed Fayyum villages.¹³ Each entry falls into two broad halves. The first describes the village in general terms; the second concentrates on its assessments and taxes. Access to the general descriptions is facilitated by a turn-of-the-century article by Georges Salmon¹⁴ which provides nutshell translations or paraphrases for each village. For tax obligations, which are presumably what define villages administratively as villages, guidance is available in an article of 1956 by Claude Cahen.¹⁵ This important article principally attempts to classify and define the taxes mentioned by Nabulsi, providing in its pages a chart where the taxes for all the villages are listed by general category with rounded-off numbers of cash and crop amounts.

By combining the Salmon and Cahen articles it is possible to get a sense of the riches of Nabulsi's text—but the sense is only partial because despite the

¹⁰ Chaudhuri (1990), 256–7; Cuno (1992), 35.

¹¹ The alphabetisation is strict for the initial letters of village names, but not always absolute within those initial letters. Villages whose names begin with the definite article are first listed (Chapter 7, 18–20) and later recorded individually under 'alif'.

¹² In Chapter 10 each new village name is in parentheses and (usually) placed at the beginning of a new line.

¹³ These are separately listed in Nabulsi's seventh chapter (18–20). Tallying the number of villages is not as easy as one might expect. Complications arise from the occasional pairing of villages for tax purposes; from the distinction drawn between villages and hamlets; and from the distinction between some self-standing villages and their dependent 'out-villages' (see below). Chapter 7 lists over 130 villages, out-villages, and hamlets, but Nabulsi's text covers only slightly over 100.

¹⁴ Salmon (1901b).

¹⁵ Cahen (1956, reprinted 1977).

manifold details in Salmon's and Cahen's articles, Nabulsi gives even more, both in bulk of information and in detail. For example, in the valuable tax chart produced by Cahen, amounts in *artabas* are not broken down into their constituent crops; figures are rounded to their nearest halves (so lesser fractions are eliminated); and the numerous subcategories of taxes under the five main headings, though helpfully discussed in the text of the article, are not reproduced on the tax chart. Meanwhile, Salmon gives for each village descriptions that are part translation, part paraphrase, and always incomplete.

I would like therefore to begin putting these two halves together, first by summarising the kinds of information to be found in the general village descriptions, then by offering some brief observations based on the village tax tables that are of general significance for Fayyum agriculture. I will conclude by suggesting possibilities for research and appending a sample complete translation for one of Nabulsi's villages. The sample village is Talit, chosen because, although it is not the provenance of papyri, it is reported in papyri from nearby ancient villages (especially Kerkeosiris and Tebtunis), and because its ruins, soon to be converted to modern agricultural use, were recently (July 1995) surveyed by Christopher Kirby and Dominic Rathbone.¹⁶

General Village Descriptions

For his general village descriptions, Nabulsi seems to have begun with a relatively fixed idea of the kinds of information he wished to include, or was expected to include, for each village. The general description normally begins with an indication of the village's size, usually stated as small, medium, or large. Where indication of size is lacking, or sometimes in addition to indication of size, qualitative descriptors may be found. The village may be 'good' (22, 53), 'excellent' (72, 82), 'populous' (62), or 'new' (128), on the positive side; or, to give a negative instance: Bur Sainaru is described by Nabulsi as 'crude' (75)—empty, unwallled, old but recently (three years ago) ruined. Still other villages are said to be 'hamlets' (*kafur*) of larger villages or of a specific irrigation district (canal/*bahr*, or channel/ *khalij*). Larger villages are sometimes stated to have satellite or 'out-villages' (*minasha*), as few as one, as many as seven.¹⁷ If the village is a 'religious endowment' (*waqf*), this will be stated at the outset; if it

¹⁶ Kirby and Rathbone (1996).

¹⁷ Or eight. Al-Istinbat is reported in its own gazetteer entry as having eight out-villages (34). Nabulsi provides a separate listing of 'out-villages', presented alphabetically according to their respective chief villages, toward the end of the *Survey* (174–6). There (174) al-Istinbat is recorded with seven out-villages, as also is Minyat Aqna (176, cf. 150–5). In the list I count 51 out-villages in all. Some were very small—a couple of houses, or cane or reed shanties, with or without trees—but most were more considerable. For example, the out-village known as 'The Kurds', one of four attached to the village of Balalah (175), was medium-sized, but had its own prayer-house, a dovecote, enclosed orchards, and date-palms.

is a military 'gift-estate' (*iqta'*), this may be mentioned here, but is often reserved for later in the village's entry.

After statement of size one often finds reference to the village's location in the Fayyum, normally expressed in terms relative to Madinat al-Fayyum, both in terms of the village's distance and compass-point direction from the capital city. Distances are given in half-hour increments of up to three hours, based apparently on travel by horseback. These distances and their attendant directions are obviously very rough guides, but the general picture they present is clear: that is, the Fayyum's villages radiated from the province's capital in a way not much different from today. More distant places, like al-Hanbushiya (59) (modern Nezla) in the extreme west, with 'nothing behind it except the mountain', are reached in four hours. Bayad (78)¹⁸ in the extreme north-east is also four hours away, 'at the foot of the mountain', but Maqtul (169) is likewise four hours distant though considerably north of Bayad. Beyond Bayad and Maqtul and five hours from the city is ar-Rubiyyat, known to papyrologists as the modern village closest to the ruins of ancient Philadelphia, provenance of the famous Zenon Archive of Ptolemaic Egypt.¹⁹ In the extreme south, Talit (128; Appendix below) takes half a day although, as the crow flies, it is not much more distant from Madinat al-Fayyum than Tatum (86), supposedly only a three-hour journey.

A village's trees generally come in next for mention (unless they have been mentioned before the village's location—as, for instance, in the Appendix below). Very helpful here is the word-list of Nabulsi's trees, plants, and flowers assembled by Georges Salmon at the beginning of this century.²⁰ For each village Nabulsi will indicate whether it has many trees, few trees, or none at all; he may also specify whether the trees are fruitful, new and not yet productive (128; Appendix below), or ruined. Babij Andir, for example (77), a large village in the west Fayyum, contained, according to Nabulsi, 'private land for cultivation, but no palm trees or gardens or vineyards'. Tirsā had 'no palm groves or gardens or trees or vineyards'. Dahma (101) had 'acacia trunks',²¹ but 'no date-palms or vineyards or sycamores or plants'. Biahmu, however (66), like many other villages (e.g., 32, 37, 40, 42, 44, 69, 72), was rich in trees: it had 'gardens and vineyards and enclosures of fig trees and enclosed orchards of date-palms and olives'. Naqlifa (170), a large village nearly three hours north of the capital, had 'many date-palms and abundant trees/shrubs and figs and olives'.

¹⁸ If Nabulsi's distance is roughly accurate for Bayad, his directions are not.

¹⁹ The ruins are known today as Darb al-gerza or Khirbet al-Kabir (information from Dominic Rathbone).

²⁰ Salmon (1901a); also useful, Cooper (1973).

²¹ The expression *aswal sant* ('acacia trunks') occurs elsewhere in Nabulsi (e.g., 60, 92). It perhaps refers to acacia that had managed the transition from shrub to tree. See Attenborough (1995), 61–3 and the brilliant colour photograph on 62, an acacia in the midst of this transformation. Alternatively, these were dead acacia whose wood could now be harvested.

The commonness of date-palms in Nabulsi's Fayyum villages, sometimes in tandem with vineyards, comes as no surprise, but the occasional mention of single, lone sycamore trees in some villages is curious (54, 60, 62, 82).²² Various other trees, shrubs, plants, and flowers are mentioned at this juncture: tamarind, apple, peach, Christ's thorn, fig, pear, jasmine, narcissus — to give a random and incomplete sampling.

What follows trees comes in various order, as pertinent to each given village. For several consecutive villages Nabulsi may follow the same order of presentation, but then he will shift and install a new order, only to replace this in turn a few villages later. It is easiest here simply to say that items that come after the village locations and arboriculture include three that are rarely left out because they are common to all villages. These are notations about the village's people, water source, and assessed valuation for tax purposes. The first two are never missing, but the third shows variation because, among other things, one village's assessment may be incorporated into that of another, or into that of a larger 'irrigation district'.²³

In discussing the people, Nabulsi divides the population of the Fayyum into Bedouins (or Arabs) and settled folk,²⁴ the former being far more numerous than the latter. The thirteenth-century Fayyum population was dominated by three lineages. First in importance were the Bani Kilab, a great tribe of northern Syria. Second were the Bani 'Ajlan. At a significant but distant third came the Lawatas, a North African Berber tribe.²⁵ Virtually every Fayyum village was dominated by a branch of one of these three big tribes.²⁶ In general, the Bani Kilab dominated in the central, southern, and western areas of the Fayyum, the Bani 'Ajlan in the east and north, while the Lawatas mostly dwelt in villages along the Lahun Gap.²⁷ They were all, of course, Muslim by religion, but Christian minorities in some villages are indicated by the villages' being required to pay the poll-tax on Christians (*al-jawali*, e.g., 46, 63, 68).

The source of each village's water is specified. Sometimes this was easy for Nabulsi to record: the water was from a specifically named canal (*bahr*) or channel (*khalij*). Often, though, there were complications that entailed sluice gates, distribution weirs, water-wheels, or water-sharing partnerships with other villages. Details like these prompted Ali Shafei Bey over half a century ago to

²² Perhaps not so curious after all. According to Attenborough (1995), 19, 'Sycamores often grow in relatively isolated locations ...'.

²³ See Cahen (1956), chart between 14 and 15 = Cahen (1977), chart between 200 and 201.

²⁴ See esp. Chapter 5, 12–14.

²⁵ Ashtor (1976), 206, cf. 187, 285, 365, n. 9.

²⁶ Salmon (1901b), 34–6 lists the tribes and their branches. One exception is the village of Abuksa (46), the majority of whose population were settled folk (*hadarat*) with an Arab minority from the Jawwab branch of the Bani Kilab. And there were others.

²⁷ Bey (1940), 323–4.

create a map of the Fayyum's irrigation system based on Nabulsi's text.²⁸ Not only the source but also the village's water quota is given in terms of *qabdas*, or 'hands',²⁹ and fractions thereof, running from low quotas of four to higher quotas in the twenties (54, 77, 128).³⁰

The assessed valuation is the '*ibra*, always expressed in 'army dinars' (dinars *jayshi*), a money of account. This is entered for many, but far from all, of Nabulsi's villages. That for North Hawara (173) is the lowest recorded, at 800 army dinars. Amounts typically run into the thousands. The highest seems to be that for the combination of the villages Dhat as-Safa and Akhsas an-Najar (103): 53,333 and 1/3 army dinars.

Items that were optional obviously depended on the nature of the village in question. If the village was a gift-estate, or if it had special circumstances in its sowing schedule (32, 37, 91, 92, 94),³¹ such details would be mentioned. Nabulsi makes a special point of indicating those villages that grew sugar cane (46 *bis*, 64, 66, 72, 91). For example, the people of the village al-Mahmasi (57) grew 'sugar cane for Damushiya, annually six hundred and forty-one first harvest *feddans*'. Al-Qalhanah, a village of the south Fayyum, is cited (57) for its 'winter clover' and 'sugar for Damushiya'. The village of Dahma (101) had withdrawn some of its water quota and land from cotton and put it into sugar cane production. Sugar-growing villages are said, usually later in each entry, to produce for specific mills or presses. The village of Fidmin, for example, produced for the press at Senhur (140), Ihrit for the press at Sinuris (46). The people of Abuksa produced for their own village press (48), while the villages of al-Mahmasi and al-Qalhanah, just mentioned, and Shidmu (126), too, produced specifically for the mill at Damushiya, which seems to have been an important local processing centre (94). Four villages within a half-hour radius of Madinat al-Fayyum produced for the mill in the capital: Babij Farah (60–1), Khur ar-Ramad (91), Qashush (143–4), and Minyat Kurbis (146, 148). Nabulsi's close attention to sugar production and milling is surely indicative of sugar's importance as a Fayyum cash crop at this time and the government's interest in its revenue.³² Slightly over 1468 feddans were given over to Fayyum sugar production in Nabulsi's day (23).

²⁸ Bey (1940).

²⁹ 'A linear measure from the bottom of the hand to the tip of the extended thumb', Cuno (1992), 209.

³⁰ Some villages had no quota (e.g., 83, 91, 131). Cf. Cooper (1973), 74–7, for Fayyum canals as reported by Ibn Mammati.

³¹ For summer crops, usually cash crops, see Cahen (1977), 179–89 ('al-Makhzumi et ibn Mammati sur l'agriculture égyptienne médiévale'), at 184–6.

³² A monopoly of the sultan according to Goitein (1967), 81; see also Ashtor (1976), esp. 199–200 ('The sugar industry undoubtedly became an important sector of Egypt's economy in the eleventh century'), 243, 306.

Other villages had their mills or presses whose existence Nabulsi carefully notes. The village of al-'Udwa, east of Bamuyah, a large village in the northern Fayyum, had a one-stone, ox-driven press (32). Babij Anshu, to the west, had a two-stone, ox-driven press, specifically for sugar cane (72, cf. 94); the village of Jirdu produced sugar cane for this press (90). There was another two-stone press at Abuksa, one of them water-driven (46), and a two-stone press at Bamuyah (69), one stone owned by the local monastery, one by the prayer-house. Balalah (64) had a one-stone press for sugar cane, Dhat as-Safa a one-stone, water-driven press.

Village markets also called for Nabulsi's attention. Bamuyah, for example (69), was prominent for its Thursday market featuring perfumes and cloth. Nabulsi also indicates the religious structures for every village in his gazetteer: mosques, prayer-houses, monasteries, and churches. The notations for religious buildings in individual villages can be checked against a 'master list' provided much earlier in Nabulsi's eighth chapter (20–23). This gives a total of 45 mosques, 35 prayer-houses, 25 churches—some 'thriving', some 'dilapidated'—and 13 monasteries, including the one still surviving and under recent Polish excavation at Naqlun,³³ a site described by Nabulsi (22) as being 'on the mountain near Qibsha and to the east of it'.³⁴

When Nabulsi proceeds to list a village's gross receipts (*irtifa'*), he returns to an element that is invariable in his descriptions and that leads to specification in extensive detail of a village's tax liabilities and credits. The gross receipts in cash and in kind are expressed respectively in real dinars and in a category of crops (mainly cereals and legumes) known as *ghalla*. Not surprisingly, wheat predominates, remaining, as it had been in antiquity, 'the king of crops'³⁵—the single crop most grown in the region and the first mentioned when listed in any series of *ghalla* crops. Of the Fayyum's annual estimated gross produce in cereals and legumes, 140,631 artabas (23), 51.5 per cent (72,403 artabas) was in wheat.³⁶ Barley, a hardier grain than wheat and therefore cheaper to grow, was second in importance, the usual assumption being that it was produced less for human consumption than as fodder for animals, including horses of the sultan's stables (46, 90, 129, 170).³⁷ Still other crops were categorised as *ghalla*. These included fava beans (*ful*), third in abundance after wheat and barley, grown for their own sake but also to replenish fields previously devoted to cereal crops. Frequently fava beans and barley are totalled together, thus preventing any distinct final totalling of their respective importance in Nabulsi's Fayyum, or the

³³ Most recently: Derda (1995), esp. 19–40: 'Deir el-Naqlun and Polish Research 1986–1993'.

³⁴ References to cemeteries are also found for some villages (82, 85); the colonies of dervishes at Akhsas al-Hallaq (38–9) bear special mention.

³⁵ Rathbone (1991), 213.

³⁶ Figures in artabas in this and the following paragraph are rounded off to the nearest whole.

³⁷ Ashtor (1976), 41–3; Chaudhuri (1990), 224–5; Rathbone (1991), 214.

exact proportion of each of them to wheat. In combination, they accounted for 63,362 artabas of the Fayyum's annual gross produce classified as *ghalla*, or 45 per cent of the total.

Other crops categorised as *ghalla* were obviously much less widely planted and taxed. In descending order of importance (23), these included rice, cumin, sesame, vetch, and rape. The village of Abshayyat ar-Ramman (48–9) may be singled out as an example of a large village that produced for taxation 3,138 artabas in wheat, 3,028 in barley, 310 in cumin, 182 in fava beans, 44 in rape, and 16 in coriander. Most villages produced much smaller amounts than Abshayyat ar-Ramman, and these were often limited in diversity to wheat and barley (e.g., 37, 50, 163, 169), sometimes produced and taxed in nominally equal amounts (e.g., 45, 60, 75, 90, 169). Talit in the sample translation below (Appendix) is distinguished, among other things, for producing nearly six times as much barley as wheat and for its significant production of sesame, more than sixty artabas.

Tax Tables

Briefly, numerous types of taxes are recorded in the tables that follow notation of the villages' gross receipts, the lengths of the lists varying according to the number and kind of taxes required village-by-village. It is in these 'tax tables' that the crop 'diversity index' for many villages is enlarged, beyond the products of fruit trees and vines and those crops earlier classified as *ghalla*. The range of produce is impressive,³⁸ wider even than in antiquity because now cotton and sugar cane (but not yet maize) are represented.³⁹ Here in the tax tables one can sometimes find mention or additional mention of 'cash crops' like sesame and indigo, grown even in Talit (128; Appendix), a village on the Fayyum's south desert edge. And here one may find mention of flax or cotton, and specific mention of items like straw and chickens (57, 128) not found in earlier sections.

Among the taxes found for most villages are alms taxes (*zakat*), mainly assessed on livestock, and taxes on pastures (*mara'i*). These give a sense of where the Fayyum's barley produce went, and its birseem, and indicate that the region, in antiquity as is the case today, was one of mixed agriculture and pastoralism.⁴⁰ Animals were then as now omnipresent. There were apparently as yet few water-buffalo in Nabulsi's Fayyum — it was oxen that drew the ploughs and drove the millstones (32, 72, 94), hauled water (46, 101) and worked the thresh-

³⁸ Cf. Rathbone (1991), 218.

³⁹ Bagnall (1995), 70–1. Comparable in general is the evidence for crop diversity in Egypt in the century before Nabulsi: Cahen (1977), 179–89 ('al-Makhzumi et ibn Mammati sur l'agriculture égyptienne médiévale'). For comparable ancient evidence (Greek papyri of the Ptolemaic period), Schnebel (1925).

⁴⁰ Keenan (1989).

ing floors at harvest.⁴¹ Curiously, the tithe on livestock is limited in the range of animals it taxes. The concern is mostly with 'small cattle', *agham*, a term that covers and mainly refers to sheep and goats. The former, apparently, are routinely categorised as 'white', the latter as 'hairy' or 'shaggy'.⁴² To judge from a large array of village entries, it is hard to resist the conclusion that sheep were both more numerous and more valuable than goats, presumably because, as in antiquity,⁴³ their wool was highly prized. Larger cattle sometimes come into play, usually one at a time (*baqarun*), always reddish-brown in colour, and always young (six months old or yearling). Camels (*ibil*) also sometimes figure, curiously classified as 'hairy *agham*' (e.g., 49, 51).

Research Possibilities

Even this brief summary should make it clear that Nabulsi's *Survey* provides an extraordinary wealth of agricultural and other information. This is information that is highly amenable to database conversion and to representation in a variety of graphic forms, especially bar graphs and pie charts. At the same time, the text is a 'prose map' that offers many opportunities for cartographic representation. The task is to unscramble the information Nabulsi gives alphabetically and to redeploy it in maps. Some of this has already been done. Salmon in 1901 created a map of Nabulsi's villages combining the data he gives with identifiable modern villages. Ali Shafei Bey in 1940, as mentioned above, created a Fayyum irrigation map based on Nabulsi's text. These maps, however, can be improved upon, and more kinds attempted, such as maps plotting market villages or maps indicating orchard and vineyard concentrations; maps of village irrigation quotas or cash crop concentrations, especially for the geography of sugar cane plantation and its local processing; a map plotting the Fayyum's mosques and prayer-houses, churches and monasteries, along with other demographic information Nabulsi provides about concentrations of Christians in this preponderantly Muslim region. The alms tax on livestock may make it possible to plot the relative concentrations of sheep and goats in the Fayyum, to determine, for example, whether greater concentrations of ovicaprids were to be found on the fringes in the west and south than in the central areas. Also promising, especially given the way Nabulsi presents his information—always in terms of village locations with respect to the capital city—is the possibility the *Survey* offers as a test case for central place theory for a pre-modern agricultural province. The Fayyum

⁴¹ Chaudhuri (1990), 225–6.

⁴² To reinforce the lexical indications of the Arabic words used in subdividing *agham* into 'white' (sheep) and 'hairy' (goats), see Aboul-Ela (1993), 63–79 at 68–9: modern Egyptian sheep are all 'fat-tailed coarse wool breeds', while goats are 'hairy and medium-sized'. Alternatively, I suppose, sheep could have been categorised as either 'white' or 'hairy', and goats are not of concern here.

⁴³ Keenan (1989).

was a province whose tax obligations in cash and kind had to be funneled to the central government, a province with specialist market villages, and with the kinds of agricultural processing (flax (e.g., 55, 94, 101), silk (44), cotton (e.g., 86, 101, 121), sugar cane (*passim*)) that point to easy-to-forget vertical commercial links with the outside world.⁴⁴

In conclusion, Nabulsi's *Survey* is a gem, intrinsically valuable for the agricultural data it gives for an important province of Egypt at a fixed point in its history. This paper has been a mere reminder of that fact, but Nabulsi also offers, for comparative purposes, a description of Fayyum agriculture at a mid-point between agriculture as known from the papyri of ancient Egypt and that of modern times.⁴⁵ This is another topic that seems worth considering. Finally, for full scholarly exploitation of the *Survey*, a complete translation into English would not only be helpful, but essential.⁴⁶

Appendix: Nabulsi (128–129) on the village of Talit

Sample Draft Translation⁴⁷

Talit: From the rights (*huquq*) of the Tenbetweih Channel (*khalij*), this village is equivalent to a new village, small in population. It contains new date-palms which have not yet borne fruit and recent enclosures of fig trees (they have borne fruit). And this village was large, inhabited. It fell into oblivion, according to what is said, from the high price levels of al-Mustansir. Then the sands advanced upon it and covered it. And on the edge of its land those new houses were established. And it is south of Madinat al-Fayyum. Between it and Madinat al-Fayyum is half a day's journey. And it is assigned in the gift-estate of a group of gift-estate holders, with control of the cash fees (*rusûm*) and the pastures (*marā'i*) without any quota (*'ibra*) [sc. from them]. Its water is from a channel of the Bahr Tenbetweih, new in the days of the amir Fakhr ad-Din. Its quota is twenty measures (*qabdas*, 'hands'). Its people are sons of Hatim, a branch of the sons of Kilab. Its gross receipts in cash are eight dinars and two-thirds and a quarter and one-half carat and one grain (*habba*); and in crops (*ghalla*) seven hundred eighty-three artabas and a sixth, specifically: wheat, one hundred and five artabas; and barley, six hundred and seventeen artabas and a third and an eighth; and sesame, sixty artabas and a third and a quarter and an eighth. In detail, the sources of cash [owing] are [cash] for rent of the wineshop

⁴⁴ Goitein (1967), *passim*; A. L. Udovitch in this collection.

⁴⁵ For the ancient period Schnebel (1925) remains unsurpassed.

⁴⁶ For much help, encouragement and bibliographical guidance, I am indebted to Dominic Rathbone. All shortcomings in the preceding text are mine.

⁴⁷ The translation is by Sa'ad B. Muhammed and James G. Keenan, with corrections kindly offered by Mr D. S. Richards during the course of the conference. My thanks to him both for his help and for the graciousness with which his corrections were offered. I have little doubt further improvements are possible and welcome them either in print or by mail. In the translation, the absence of paragraphing and the refusal to include formatting of any kind are meant to convey to the reader (in English) a sense of the experience of reading Nabulsi's text in the original.

pertaining to the Ministry and for salary tax (*kharaj ar-ratib*) and for groundrent (*al-hikr*): eight dinars and two-thirds and a quarter and one half carat and a grain. The sowing of the Ministerial Domain: five hundred and seventy-four artabas and a sixth, specifically: barley, five hundred and thirteen artabas and a third and an eighth; sesame, sixty artabas and a third and a quarter and an eighth. The portion which is allocated in the gift-estate of the gift-estate holders: two hundred and nine artabas: wheat, one hundred and five artabas; barley, one hundred and four artabas. Incumbent upon it [sc. the village] for the fees (*rusum*) and the weighing/measuring (*kiyalat*) and the pastures: five dinars and a carat and two grains; and in crops (*ghalla*), thirty-six artabas and two-thirds and an eighth: wheat, twenty-one artabas and a half and a quarter; barley, twelve artabas and a third and a quarter and an eighth; and sesame, two artabas and a third. Fee for the threshing floor: eighteen dirhams and a half and a quarter; and in crops twenty-two artabas and a half and a third and an eighth, specifically: wheat, thirteen artabas and a half and a quarter; barley, seven artabas and a third and a quarter and an eighth; sesame, one and a half artabas. For the weighing/measuring: thirteen artabas and a half and a third: wheat, eight artabas; barley, five artabas; sesame, a half and a third artaba. For the [sc. tax on] irregular pastures, for two hundred thirty-five head, one hundred eighty-three dirhams and a half and a quarter and an eighth, specifically: at the rate of one hundred dirhams per hundred, for ninety-six head, ninety-six dirhams; at the rate of seventy dirhams per hundred, for sixty-four head, forty-four dirhams and a half and a quarter; at the rate of fifty dirhams per hundred, for thirty head, fifteen dirhams; at the rate of thirty dirhams per hundred, for forty-five head, thirteen dirhams and a half. The fee for the official employees: fourteen dirhams and a half and an eighth. And upon it [sc. the village] for the alms tax (*zakat*) for the value of sheep and goats (*agham*), for ten head, five dinars: white, for three head, three dinars and an eighth; hairy, for seven head, one dinar and a half and a quarter and an eighth. And upon it from the straw: four hundred bundles (*sanifs*). Fee for the overseer of the canal (*bahr*) in it, wheat: one artaba; and the breeding (*al-murabi*) in it of chickens for the Sultan's Blessed Ministry, apart from the cost of production (and it is at the rate of one-third): three hundred birds, and the advance payment (*muslaf*) upon them. In it [sc. as credit] for the barley intended for the Sultan's stables: fifty-five artabas. And that which is in it [sc. as a credit] from the Ministry's seed advance, in what is in it for domanial sowing of the Ministerial barley (and it is fifty artabas [sc. at the fifty-artaba rate]): three hundred and one artabas and a third and a quarter and a sixteenth and a quarter carat, specifically: wheat, two hundred and two artabas and a third and a quarter and an eighth; barley, seventy-six artabas and a half; fava beans, twenty artabas; sesame, two artabas and a quarter and a sixth; indigo, a half and a quarter carat.

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