A STUDY IN SITOLOGIA

IN ROMAN EGYPT

By :

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Aurelius Victor tells us that in the time of Augustus " ex Aegypto urbi annona ducenties centena milia frumenti inferebantur " (1). It is evident that still greater revenue came to Rome after the hieratic lands had been confiscated and the canals put in good working order. It seems, any how, that this amount remained approximately the same along the Roman nule : " de urbe Alexandrinorum et Aegyptiacis provinciis 8. Felici frumenti missione octogies centena milia complente "(2). This amount of corn, besides about quarter a billion Roman denarii, (3), may justify the fact that the Emperor of Rome considered Egypt the great possession of himself(4), though he said " Aegyptum imperio populi romani adieci "(5).

Egypt was put by the Emperor in a singular position (6).

(*) I should like to thank Dr. K. coles for inviting me to participate in the 14th Congr. of papyrology.

(1) Aurel. Victor, 1, 6.

(2) Code of Justinian, Ed. XIII. About the Comparison between 8 million. artabae and 20 million modii see Schnebed, Die Landwirtschaft, p. 1. Josephus (B. J. 11, 385 sq) tells us that this amount of corn met the needs of Rome for four months. This means that Rome needed yearly about 24 million artabae.

(3) Dio Cass. li, 17, 6 ; Suet. Aug., 41 ; JRS, 1933, p. 143.

(4) Philo, In Flaccum, 19.

(5) Mon. Ancyr. 5, 24 ; also CIL VI, 701, 702 : Aegypto in potestatem populi romani redecta.

(6) The story of the rebuke of Germanicus by Tiberius (Tacit, Ann. II, 59-61) when the former visited Egypt (SB. 3924. A. D. 19 ; Wilcken, Chr. 413) and opened the granries (Wilcken, Hermes, 1928, p. 48. cf. Tacit., Hist. I, II ; Dio Cass. 51, 17 ; Arrian, Anab., III, 5, 7) is a famous incident.

He kept for himself the right to raise, lower or grant exemption from taxes (7). The prefect's power was confined to carrying out the regulations of his imperial master (8). The prefect was much concerned in preserving the proper status of the city ... and in maintaining the tranquility of Egypt that she may zealously contribute to the annona (9). " The tribute in grain was calculated according to the actual rise of the annual flood of the Nile (10).

In accordance with the prefect's orders the eclogistai in Alexandria, one for each nome, made the annual assessment, after receiving the reports of the collectors and checking them with the tax-lists to see that the state has acquired the demands (11). The grammateis and boethoi in the logisteria compiled the tax - lists Κατ ; ἄνδρα on account of material prepared by the comogrammateis, who forwarded it to the

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(7) cf. the edict of Tiberius Julius Alexander, OGI, II, 669. 27-64 ; the edict of Hadrian, SB. 6994. A.D. 137. While Tiberius claimed that he got more grain for the annona than his predecessor (Tacit., Ann. VI, 13), he sent a word to the prefect Aemilius Rectus, when the latter forwarded the revenues in excess (Dio Cass. LVII 10, 5. Wilcken, Grundz., P. 208).

(8) The prefect, e.g., prescribed the amount of tax demanded from aurum coronarium (P. Fay. 20. A.D. 220), ordered issue of mutual receipts (P. Fay. 21. A.D. 134), fixed the rate of tax demanded from each nome (P. Ryl. 207, P. Oxy. 986 ; P. Lond. 604 b ; BGU. 20 ; P. Bour. 42 ; P. Giss. 60 ; BGU. 516 ; P. Ryl. 142). cf. Reinmuth, The prefect of Egypt, TAPA, LXV, 1934 ; p. 248 sqq.

(9) CIG. 4957 ; OGI. 669 ; IGRR. 1263. A.D. 68 (The edict of Tib. J. Alexander). cf. Hohlwein, Le Blé d'Egypte, Et. d. Pap. IV, p. 80 ; P. Oxy, 44. late 1 st cent. A.D.

(10) P. Ryl, 207 ; Strabo XVII, i, 48 (817) ; TAPA, 1943, P. 248 sq. ; Johnson. Rom Egypt, P. 57 ; P. Ryl. 83 ; P. Giss. 48 ; P. Oxy. 1436 etc.

(11) W. O, I, P. 499. ; Wilcken, Grundz., P. 208 sqq. ; N. Hohlwein, id. p. 57 ; P. Ryl. 83 ; P. Giss. 48 ; P. Oxy. 436 etc.

strategi and basilicogrammateis ([12]) after keeping a copy in the archives of the village. The secretaries of cities " grammateis poleos " carried out the same procedure in regard of the lands within their competence. The basilicogrammateis kept the documents in the central archives of the nome and sent a summary to the central archive in Alexandria ([13]). Having such information, the high officials in Alexandria issued orders to the strategi to collect the taxes ([14]). The strategi, as heads of the nomes, then, issued orders : "**παραγγελλέταί τοῖς πράκτορσι τοῦ χ (ἔτους) τών γεωργών καῖ κληροὺχων**" to follow the auspiciously survey of the sowings and make a list of all the land that has been sown both with wheat and with other crops and of the names of the public cultivators and cleruches who have sown each kind ... no pretext with regard to the collection being left to you touching the identification of the crops, and moreover send in a duplicate of the survery — list which you make ([15]) ". The responsibility of the strategus for the revenues remained nearly the same both in the Ptolemaic

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(12) P. Tebt. II, App. 1 ; BGU. IV, 1047. ii. 4-9 ; P. Hamb. 19 ; Flor. P. 331 = Wilcken, Chr. 341. P. Giss. 60 ; P. Oxy. 488 ; P. Rein. 47 **Arch. f. Pap.**, V. P. 245 ; P. Giss. 4-7 ; P. Oxy. 1662 A. D. 246 : the prytanis asked for relief from assessment, cf. Johnson, id. p. 29 sqq. 544 sq. and No. 13.

(13) Wilcken, Grundz., p. 206, 210, BGU. I, 175.

(14) The collection followed the royal. διάγραμμα περί τῶν σιτικών or σιτολογυκόν. In the Ptolemaic period. see. Rostovtzeff, Soc. and Econ. Hist. of Hellen. World, p. 279, 1382, note 88. For the Roman period see P. Ryl. 83 ; P. Amh. 79 ; P. Ausonia 2. (ii, 1907, p. 138). About such correspondence : E.G. Turner, Greek Papyri, p. 139.

(15) P. Tebt. 288. A.D. 226. About the governers of the regions and their responsibility for the revenues and the granareis in the Pharaonic period see A. Erman and Ranke, Aegypten und Aegyptisches Leben Altertum, ch. V.

and Roman periods (16). This responsibility was difficult and even dangerous especially in the second and third cent. A.D. (17). Harpocration, the strategus, announced that he had an amount of corn in the granaries. He said that " the measuring out of the corn is his concern, and that he is uneasy lest with the object of defauding him the sitologi carried away the corn and be lost to the treasury " (18). The strategus was liable to condemnation by higher officials in case of deficiency (19). Therefore, he had to examine the tax-collectors in the logisterion of the nome under his jurisdiction (20) and send the negligent official to the prefect (21).

After the **ἀπαιτήσιμον πατ'άνδρα** being compiled for each given district in accordance with reports of the official, such as the comogrammateus (22), and displayed in public by the order of the epistrategus (23), the collection of taxes began **ἀκολούθως τῶ ἐπισταλέντι μοι ἐπιστάλματι** (24). The epistalma was sent to the sitologi by the strategus or by **γενεμένου βασιλικοῦ γραμματέως ... διαδεξαμένου τάκατά τὴν στρατηγίαν**(25). The epistalma was sent to the sitologi by the strategi or the royal scribes as an order

(16) BGU. 1479. 63 B.c ; 1754. 63 B.c ; P. Amh. 35. 132 B.C. The taxes were to be estimated in accordonce with the actual rise of the Nile, therefore the tax-payers complained when the taxes were estimated in accordance with the previous year ; see (Documentary papyri from the Michigan Collection Gerald M. Browne), Toronto, 1970, vol 10. No. 594.

(17) Rostovtzeff, Soc. and Econ. Hist. of Rom. Empire, p. 483.

(18) PSI. 1100. A.D. 161.

(19) PSI. 1100.

(20) P. Par. 69 = Wilcken, Chr. 41 = Select Pap. II, No. 242. A.D. 242.

(21) P. Tebt. 289. A.D. 23 ; P. Oxy. 44. late 1st cent. A.D.

(22) St. Pal. 165. 26 ; BGU. 598 ; P. Bouriant ; 47 ; BGU. 175 ; P. Fay ; 202 ; P. Ryl. 390 ; P. Oxy. 1446 ; SB. 5272 etc.

(23) BGU. 659. ; BGU. 486.

(24) BGU, ii. 362. iii. 5 sq. A.D. 215.

(25) Thunnell, Sitologen-Pap ; 2 Rl, 8, 11, 18. A.D. 164-5. P. Fay. 26. 4. A.D. 150.

or official communication, such as **ἀντίγραφον ἐπιστάλματος** copy of payment order ". (B G U. 1964, A. D. 138) ([26]). It is worth noting that the epistalma was issued by the strategi or the royal scribes in order that the wheat to be measured or expediated ([27]), disregarding the status of the official ([28]). But the sitologi also collected the grain **ἀκολοὐθως τῷ γενομένῳ ὑπὸ τοῦ νομοῦ στρατηγοῦ ὑπομνήματι** ([29]). The **ὑπόμνημα** indicates the instructions relevant to the regulations of the collection of taxes or any other procedure such as " the reports of birth of the children **ὑπομνήματα ἐπιγεννήσεως** ([30]).

As soon as the grain was harvested in April to June it was carried to the village threshing-floors. The army of the collectors, **πράκτορες τοῦ χ (ἔτους) τῶν γεωργών καί κληροὐχων** moved to the threshing - floors carrying tax - lists. The **πράκτορες σιτικῶν** were in charge of the actual threshing([31]), and after that came under the supervision of the comarchs([32]). Various officials are met with collecting the taxes. The **πεδιοφύλακες** , who were charged in supervision

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(26) But the epistalma of the strategus is sometimes not clear. cf. H.I. Bell, **JEA**, 6, 1920, p. 131 on P. M. Meyer, Griechische Texte aus Aegypten, No. 2 ; Zaki Aly, **Akt. D. VIII Intern. Kongr. f. Pap** ; P. 18 ; Preisigke, WB.S. v. ἐπίσταλμα

(27) cf. P. Ryl. 199.3.1 st cent. A.D. ; P. Oxy. 1056. 6. A.D. 360 ; BGU. 18. 1. A.D. 169.

(28) cf. J.G. Tait, The strategi and Royal scribes in Roman Period **JEA.** 8, 1922, p. 166-173.

(29) Zaki Aly, **Aegyptus**, 1970, pp. 78, 87 ; but about the inter-pretation of the word γενομένῳ by the editor cf P. Oxy 2569. 5. A.D. 265 ; P. Oxy. 2597. 3rd 4th cent. A.D. ; P. Oxy. 2770. 6. A.D. 304 ; Mckay ; The use of the perfect ; **Bull. Inst. of class. Stud. 1965.**

(30) Wallace : Taxation ; P. 105. cf. P. Oxy. 2562. 7 ; 12 ; 15. A.D. 330 ; PSI. 109. early 1st cent. A.D. ; **JJP.** VII - VIII, 1954, p. 8, P. Tebt. 288 ; P. Giss. 61. A.D. 119.

(31) Wallace, Taxation, p. 369 sq ; Schnebel, Ladwirtschaft p. 170 sq.

(32) P. Oxy. 1255. A.D. 292.

of the fields and canals (33), seem to have played in the Roman period a role similar to that of the γενηματοφύλακες in the Ptolemaic period. These field-guards, perhaps, collected taxes in Philadelphia (34). There is no reason to think that the field-guards, as tax-collectors, collected the taxes in another place but the threshing-floor. It is beyond question that the farmers were in arrears because of bad harvest, but the cultivators were pursued immediately after the arrival of the crops to the threshing-floors (35), where the ἀπαίτησις took place. It is said that the cultivators were not permitted to remove their grain from the threshing-floor before it was measured by the σιτομέτραι and the σιτοπαραλῆμπται (36), and the government's share of taxes or rent had been reserved (37). The elders of the village, who in this function succeeded the Ptolemaic elders of the cultivators, supported, or represented, the cultivators to see that the division was fairly made (38) by the officials. These elders were also charged in verifying the current accounts of the farmers at the granaries

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(33) Rostovtzeff, **Archiv f. Pap.** III, p. 204 sq ; Wileken, Grundz., p. 181 ; P. Achmim 7. 31 and note.

(34) P. Hamb. 35 ; P. Hamb. p. 151 ; J. Scherer, Payprus de Philadelphia p. 84, note 1. 11. The πεδιοφύλαξ received 1/4 artaba of wheat from the sitologus (P. Philadelphia 17. 2nd cent. A.D), so, it seems that this was an official attached to the granary or worked under its administration (Scherer, id ; p. 81) Johnson, Roman Egypt, p. 498.

(35) P. Graux 2 A.D. 55-59, P. Thead, 17. A.D. 332 ; SB. 5230. BGU. 486. 2nd cent. A.D. 1st cent. A.D.

(36) N. Hohlwein, Le Blé d'Egypte, **Et. Pap.** IV. p. 80.

(37) P. Oxy. 1255 ; Wallace, Taxation, p. 34 ; Zaki Aly, **JJP.** p. 299.

(38) BGU. 85 ; Rostovtzeff **Archiv F. Pap.** III, p. 204, and note 5 ; Wallace, id ; p. 34.

of the locality (39). P. Amh. II 152.8.5th 6th cent. A.D. may indicate that the **σιτομέτρης** collected the taxes at the threshing floor : **ἀπέλυσεν τὸ ὑπόλοιπον τῆς κριθῆς ἀπὸ φοιπάμμωνος τοῦ υἱοῦ Ἀπφοῦ τοῦ σιτομέτρου** If we agree with N. Holwein that the **σιτομέτρης** and **σιτοπαραλῆμπτης** were engaged in the collection at the threshing-floors (40), it would be likely to think that the sitologi were in touch with this process since the **κοινωνοί** in **σιτομέτρης Ἀρεῖος καί κοινωνοί** (P. Flor. 388. 46. 1st 2nd cent. A.D.) are considered as a reference to the sitologi (41).

There was certainly a relation between the threshing-floors and the granaries (42). In the Ptolemaic period, as well as in

(39) P. Fay. 18 a ; 147 ; 150 ; P. Lips. 106 ; **Archiv f. Pap** III p. 568 ; IV P. 484 ; Preisigke, Girowesen, p. 80 ; N. Hohlwein, id ; p. 43. The elders of the village are met with engaged in various functions. They collected φόρετρα κληροὺχων in money (P. Philadelplia 22 A.D. 163-4), and the μονοδεσμία in money (P. Philadelphia 21. A.D. 157-8). They were nominated by the comogrammateus (P. Leit. 1. A.D. 160) but it seems that they became collega minors to the comogrammateus and could discharge his office (P. Leit. 15. early 3rd cent A.D.) See A. Tomsin, Etudes sur les πρεσβῦτεροὶ des villages de la χὼρα egyptienne, **Bullentin de l'Academie Royale de Belgique, 1952.**

(40) N. Hohlwein, id ; p. 80.

(41) Rouillard, L'administration civile de L'Egypte Byzantine, p. 138, note 3 ; Calderini, Θησαυροι p. 70 seq., P. Oxy. 798. 183 B.C : ὡς δ'ἀν παραγένωνται οἱ σιτόλογοι ἐπι τὴν παράλημφιν τῶν σιτικῶν ἀπομετρήσομεν ἅμα παὶ ταῦτα may show that the sitologoi were collectors in the Ptolemaic period.

(42) Such a relation may not exist nowadays in nowhere due to the fact that modern cultivators deliver the corn into central granaries. The corn is to be classified in accordance with the grade of its cleanness. But in the Roman period the administration demanded its corn of certain level of purity and cleanness. This standard of purity of the corn was required to be accomplished by the farmers themselves and the ultimate responsibility was of the sitologi. cf V.B. Shuman, Light on taxes in Roman Egypt, **Proceed. of IX Intern. Congr. of Pap.** 1958, p. 254 sqq. Moreover there are no village granaries or granaries spread in every stratgic place in the present days, but only central granaries (Shouna). cf Caladerini, Θησαυροι chapt. ii, p. 30 sq. ; iii, p. 40 sq.

the Roman period, the γενηματοφύλακες the comogrammateus and the comarch were supervising both the actual threshing and the grain after being threshed (43). This relation between the threshing-floors and the granaries may be pictured in P. Ryl. 90 : The comarchi presented on their own risk persons for compulsory services. One of those εἰς ἁλωνοφυλακίαν, another εἰς τὸ πρόνοιαν ποιῆσασθαι τοῦ καθαρὸν εἶναι καί ἄδωλον τοῦ μετρουμένου δημοσίου πυροῦ a third εἰς τῷ προστῆναι τοῖς δημοσίοις θησαυροῖς καὶ συνσφραγίζειν ἅμα τοὶς σιτολόγοις and a fourth εἰς γενηματοφυλακίαν. Although these persons were charged in works considered as a matter of public security (44), the ultimate intention of the Roman administration was the grain to be delivered καθαρός at the granary or even at the threshing-floor, as kalen (45) points out, and any deficit was the responsibility of the sitologi (46). The government did not permit the farmers to remove their grain from the threshing-floors not only because of security but also to guarantee its share in best quality (47). The praktores sitikôn, as it seems, prosecuted the farmers at the threshing-floors to collect the grain revenues (48) of the government taxes in kind, the arrears (49), supervised the grain transport to the granaries (50), and delivered this income

(43) Wilcken, Grundz ; p. 101 ; Rostovtzeff, **Archiv F. Pap** III, p. 204 214 ; P. Oxy. 1255. A.D. 299.

(44) Johnson, Roman Egypt, p. 490.

(45) Kalen, Leihgabe, p. 276-86.

(46) P. Oxy. 708 ; P. Oxy. 1447.

(47) BGU. 515 A.D. 193 may show that the praktores sitikôn prosecuted the farmers for any amount of corn was not paid at the threshing - floor, since such amount might have been considered as arrear.

(48) Zaki Aly, **Akt. d. V. iii. Intern. Kongr. f. Pap** ; 19 sq ; Westerman and keys, Transportation receipts and tax receipts p. 104 ; Zaki Aly. **Aegyptus.** 1970, p. 82 sq.

(49) Johnson, Roman Egypt, p. 491 ; Wallace, Taxation, p. 37 ; N. lewis, P. Leit. 13. 14. mid-third cent. A.D.

(50) Wilcken, Grundz ; P. 216.

to the sitologi, i.e. these pra/tores sitikôn were the government's whip (51).

The grain ought to be transported from the threshing-floors to the granaries. Romoving the corn from the threshing-floors and paying the costs varied according to conditions of the lease contract and the status of the land, the farmer delivered the rent **εἰς δημόσιον θησαυρὸν ἰδίαις ἑαυτοῦ δαπάναις καί ἀναλώμασι πᾶσι** (P. Oxy. 2795. 19 - 21. A.D. 250) (52) or **τοῖς τῆς κώμης χ σιτολόλοις μέτρῳ δημοσίωι.** Costs of transportation were paid by either the lessor (54) or the lessee (55). The lessor and the lessee shared transport, threshing and winnowing (56). The lessee delivered rental fees of charges for transport and cleaning (57), in other cases delivered the grain owning to the state into the granary at the expense of the owner (58).

Farmers on both domain and private land were left free

(51) P. Graux 2 = Select Pap. II, 281. A.D. 55-59 ; P. Thead. 17 = Select Pap 292. A.D. 332. BGU. 486. 2nd cent. A.D. BGU. 515. See more evidence in : Death and taxes — Ostraka in the Royal Museum f, by A.E. Samuel, W. K. Hastings etc., Am. Stud. in Pap. val. 10, 1971.

(52) P. col. 270. i. 256. B.C. The farmers used to pay private loans ἐφ'ἄλλω (P. Oxy. 2775. late 3rd cent. A.D.).

(53) P. Philadelphia 15. 15-19. A.D. 153 - 4.

(54) The lessee pays all public charges except transport : BGU. 918. A.D. 112 ; BGU. 920. A.D. 181. BGU. 166. A.D. 158. The lessee received seed and pays transport charges : BGU. 227. A.D. 151. The lessee pays all except copper drachma for transport ; BGU. 166. A.D. 158.

(55) Cleruchic and domain lands : e.g.P. Oxy. 277. 19. B.C. ; PSI : 1134 A.D. 92 ; P. Lond. 314 ; P. Amh. 90. A.D. 159. P. Oslo 34. A.D. 184 ; P. Tebt. 377. A.D. 210 ; P. Bour. 17. A.D. 220 ; P. Upps. 19. 3rd cent A.D. ; BGU. 1018. 3rd cent A.D. private lands : e.g. PSI. 30. A.D. 82 ; P. Hamb. 64. A.D. 104 ; P. Lond. 1223. A.D. 1124. A.D. 150 ; P. Amh. 91. A.D. 159.

(56) SB. 7373. A.D. 29.

(57) P. Lond. 1225. A.D. 71.

(58) P. Oxy. 101. A.D. 142. of. Johnson, Roman Egypt, p. 508.

to use, public pack-animals. The great landowners accomplished this stage on their own donkeys or, as a rule, used those of guilds (59). It is true that there is no record of payments for **δραγματηγία** (transport of sheaves) by cultivators other than tenants of domain lands (60), but hte government pack-animals were avilable to the farmers of private lands(61). There are only two aspects that indicate the relation of the sitologi with the transportation of the grain from the threshing-floors to the granaries : One of them is the presence of the field-guards. **πεδιοφύλακες** , if it is right, as tax-collectors (62), and if the **σιτομέτρης** and the **σιτοπαραλῆμπτης** collected the taxes at the threshing-floors (63). In case such officials were engaged in collection of the taxes at the threshing-floors, it is highly probable that the sitologi were in contact with the grain since it began to be collected. If the suggestion by Scherer that the **πεδιοφύλακες** played in the Roman period a role similar to that of the **γενηματοφύλακες** in the Ptolemaic period, and that the arrival of the grain was under their supervision (64), is right, we may say that the sitologi cared for this stage of transprotation. The other aspect of the relation of the sitologi to the movement of the corn to the threshing-floors is the series

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(59) Preisigke **Archiv F. Pap.** III ; p. 44 sqqe C.W. Keys, **JEA**, 15, 1929, p. 160 sqq. studies the documents concerning the affairs of a group of the καμηλοτρόφοι.

(60) Wallace, Taxation, p. 34 ; Johnson, Roman Egypt, p. 508 ; Thennelle, sitologen Pap, 1Rl, 16 and note p. 66.

(61) P. Oxy. 2778. 2nd 3rd cent. A.D. and note 11. 8-9.

(62) P. Hamb. 35. ca. A.D. 160. Johnson, id, p. 498 ; J. Scherer, Papyrus de Philadelphia, p. 48.

(63) N. Hohlwein, Le Blé d'Egypte, p. 80.

(64) Scherer, id.

of receipts of **δραγματηγία** ([65]). Pertaining to the transportation of the grain to the granaries are the receipts mentioning the **σακκηγία** i.e. transport of the grain in sacks ([66]). Moreover, the **ἐπισπουδασμός φορετρῶν, δραγματηγίας καί σακκηγίας,** which covered the fees for all the stages of land transportation is well attested in the accounts of the sitologi in both the Ptolemaic and the Roman periods ([67]).

It is said that **σακκηγία** was the fees for transport of the corn to the threshing-floors in sacks ([68]). But the presence of the **σακκοφόροι** ([69]) engaged in transport of sacks, as suggested by Kalen, from the granary to the transport-ships ([70]), and the **σιτομέτρης** acting as **σακκοφόρος** ([71]) may indicate that the **σακκηγία** was fees of transport to the granary ([72]). If it is accepted that the **σιτομέτρης σακκοφόρος** had a relation with

(65) P. Tebt. 356 ; P. Kalen i R i. 16 ; BGU. 921. P. Flor. 379 ; BGU. 831 ; P. Tebt. 277 ; and introd ; P. Flor. 185 ; P. Flor. 364 ; P. Lond. 900 (p. 88) ; BGU. 1636 ; O str. Mich ; 9 ; Johnson, d ; p. 494.

(66) Ostr. Fay. 24-40 ; S. B. 1492-1517 ; Ostı. May. 51-55 ; Ostr. Berl. 81-94 ; BGU. 1697-1704 ; Ostr. Mich. 900. A.D. 296 in **Etudes de Pap.** VIII p. 45 ; Wallace, Taxation, p. 370 ; n. 27 ; Johnson, id, p. 508 ; N. Hohlwein, id, p. 84.

(67) P. Grenf. 23.17.108 B.C ; P. Tebt. 311.24. A.D. 134 ; P. Upps. 1Ri, 16 4 Ri, 20, BGU. 1613 ; PSI. 1124 ; P. Ryl. 183. 2, A.D. 16 ; P. Lond. III P. 89. 12. late 1st cent. A.D. ; P. Goodspeed XIV 7. A.D. 343 ; Thunnell, sitologen-Pap ; P. 66 ; P. Lond. 900 = Johnson, Roman, Egypt, No. 309 ; BGU. 1636. 111. 1. A.D. 156-7 ; P. Upps. 5 ; P. Tebt. 277 ; 375.

(68) Johnson, Roman Egypt, p. 508.

(69) P. Tebt. 39. 114 B.C. ; W. Ostr. 1563. A.D. 87 ; P. Tebt. 141. ii 7 3rd cent. A.D. cf. P. Goodspeed 14. 7. A.D. 343 :

(70) Kalen, Laihgabe, p. 276 ; Preisigke, WB, II, S.V. ; Oertel, Liturgie, p. 34 1.

(71) PSI. 314. 4. A.D. 195 ; Calderini, θησαυροι, P. 88 ; Wallace, Taxation, p. 37, 206.

(72) cf. Wallace, Taxation, p. 34, 42 ; N. Hohlwein, le Blé d'Egypte, p. 84.

the **σακκηγία** it could be saïd that the sitologi issued receipts on account of the **σακκηγία** and supervised the work of the **σακκοφόρος** since the **σιτομέτρης σακκοφόρος** worked under the superintendency of the sitologi (73).

The main functions of the sitologi began by the delivery of the government grain into the granary (74). Both P. Oxy. 2769 and P. Mich. inv. 259 are agreements concerning substitution in sitologia. It is, therefore, reasonable to consider these two papyri as a full description of the duties of the sitologi, and they left out no item of the multiple tasks of the sitologi. Adding PSI. 1121, enough is known about the nomination of sitologi from the city to the liturgy of the sitologia in a village (75). P. Oxy. 2769 summarizes the duties of the sitologus as follows : to collect the public tax of half an artaba **ἡμιαρτάβιον**, the public corn paid in the sitologia, to issue receipts to the payers, to submit the usual summaries and the monthly reports and all the required accounts of the sitologia to the strategus of the nome, and to deliver in full, honourably and faithfully, to the shippers who will be directed to the said sitologia all the public corn paid on its account and to receïve the usual receipts (76) (11. 11-22).

Although P. Mich. inv. 259 and P. Oxy. 2769 described the functions of the sitologi, more or less, in detail (77), it must be remembered that these duties are of a sitologus of a village and,

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(73) Calderini, id., p. 88-90. cf. Zaki Aly **JJP.** IV, p. 302 sq.

(74) Johnson, Roman Egypt, p. 490 ; Petropoulos, P. Ath. 3 note 1. 12 : οἱ σιτολόγοι οὐδεμίαν ἀνάμειξιν εἶχον πρὸ παραδόσεως τοῦ σίτου εἰς τὸν θησαυρὸν εἰς τὰ τῆς εἰσπράξεως τῶν φόρων cf. Wilcken, grundz, p. 180.

(75) See P. Leit. 3. A.D. 313. cf. P. Mertens, Les Services de L'etat civil, p. q.

(76) cf. Johnson, id., p. 491.

(77) cf. Johnson, Roman Egypt, p. 490 ; PSI. 1121.

perhaps, of a minor granary (78). Since the Pharaonic (79) periods the organization of the thesauroï was virtually that of the banks The money was replaced by the production in kind and the base of transactions became the artaba of wheat. The farmer came to put his capital of wheat as deposit **θέμα** for security, as any person put his money in the bank. At the moment of depositing, the cultivator was assured at the granary by a special account and given a receipt of his successive payments (80). The person who had a current account in a thesaurus could pay his dues (81), pass **(διαστέλλειν)** an amount of corn to another (82), or transact corn to sombody in another village (83), through the intermediation of the thesauroi. When a private individual, who was registered in the tax-lists of a village, moved to another village without paying his government dues, the sitologus of the second village receives these dues, storing them in his thesaurus and recording them **ὑπέρ ἄλλων κωμῶν** (P. Tebt. 339. A.D. 224) (84). P. Oxy. 2588-2590 illustrate the order issued

(78) Calderini, θησαυροι, p. 58-81 ; 103-4 ; N. Hohlwein, Le Blé d'Egypte, **Etudes de Pap.** IV. p. 96-7.

(79) See A. Erman & Ranke, Aegypten und Aegyptisches Leben Altertum, passim especially chpts. V-VI.

(80) P. Oxy. 90 ; P. Oxy. 518. A.D. 179-180 ; P. Oxy. 617. A.D. 134-5 ; P. Oxy. 517. A.D. 130 ; P. Oxy. 613. A.D. 135 ; P. Oxy. 615. A.D. 179-180 ; P. Oxy. 614, etc ; Preisigke, Girowesen, p. 79 ; Zaki Aly **Aegyptus**, 1970, p. 78 sqq.

(81) P. Amh. 87-89 ; P. Lond. III, 938 ; 1223, P. 139 ; P. Oxy. 640 ; P. Oxy. 516.

(82) P. Oxy. 619-632 ; P. Oxy. 517-8 ; P. Oxy. 533-4 ; P. Oxy. 2588-2590 ; P. Oxy. 2769 note L. 13

(83) Preisigke, id ; p. 106 ; N. Hohlwein, id ; p. 98 ; E.G. Turner, Greek Papyri, p. 136 ; Zaki Aly, **Aegyptus**, 1970, p. 83 sq.

(84) BGU. 835 ; P. Oxy. 501 ; Oxy. 533 ; introd. to P. Oxy. 516.

to the stologi to transfer an amount of corn to another person. P. Oxy. 2591 is a notice sent by the sitologi to the depositee that they accomplished the transaction. The sitologi may also issue a receipt ([85]).

In such transactions the sitologi worked as banks. If these transactions were one of the duties of the sitologi, why it was not mentioned in the agreements concerning substitute in sitologia ? Two recently published papyri my indicate that transactions of deposits were among the functions of the sitologi : The one is a receipt concerning a deposit of one hundred artabae of corn issued by two sitologi, endorsed and taken into account by the praktor sitikôn ([86]). This document shows the Ptolemaic procedure which continued in the Roman period : the **θέματα** which were owing **ὀφειλῆματα** were transacted by private individuals through the intermediation of the sitologi, who issued the receipts according to the receipts according to the instructions of the strategus ([87]). The other document is a sworn undertaking to recover the value of a deposit ([88]). The **βοηθός σιτῶλόγων κώμης**

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(85) P. Oxy. 613-616 ; P. Oxy. 1539-40. The system of transaction between two different villages was as follow : X put a deposit in the thesaurus of the village A with an order that it to be passed to Y, who had a current account in the thesaurus of the village B. The sitologus of B issued to X the usual receipt and gave a cheque to the sitologus of B (μέτρησον). (P. Fay. 16 ; Preisigke, Girowesen ; p. 104). The sitologus of B registers the quantity, in the current account of y and informed him of the operation (P. Amh. 112 ; Preisigke, id., P. 109. At last be sent to the sitologus of A declaration of receiving and fulfilling the job (μεμετρὴμαθα) (P. Lond. II, 345 p. 90 ; Preisigke, id ; p. 106).

(86) Zaki Aly, **Agyptus**, 1970, p. 78-79.

(89) Caldrini, θησαυροι, , p. 4 ; Preisigke, Girowesen, p. 143 sq.

(88) P. Lond. Inv. 1969 and its duplicate (P. Lond. inv. 1970) A.D. 198, published in **JEA**. 52, 1966, ip. 131. No. 2 (R. Coles, Four papyr from the British Museum).

of Theadelphia gives an oath that he will recover 182. dr. of silver, being the value of 227 $^{1}/_{2}$ art. of wheat measured to the assistant and his partner by the collectors of the crown tax of the same village, and paid by the **βοηθός** on account of the state cultivators of the same village.

It is noticed that the **θέματα** are usually mentioned where it is understood that the thesaurus is of a considerable capacity, such as to be a granary of **μέρις** (89), **τινῶν κωμῶν,** (90) **τοπαρχίας** (91). When a deposit- **θέμα** was delivered into a granary of a village the sitologi were described in the plural (92). Therefore it could be said that the functions of the sitologi varied in accordance with the capacity of the granary and, consequently, with hierarchy of the sitologi (93).

Sitologi were sometimes seen acting for short periods, perhaps during the collection of the harvest (94). But the accounts of **τὰ δάνια σπέρματα** show that distribution of grain was completed long time before sowing (95). This means that certain sitologi were kept busy for long intervsla through the year. The responsibilities of the sitologi in regard of the distribution of seeds for sowing are well illustrated in

(89) P. Oxy. 384.

(90) P. Oxy. 383.

(91) P. Oxy. 516. Also σιτολόγοι χ τόπων (P. Oxy. 2588-91) ; P. Oxy. 973 ; P. Oxy. 614-6 ; P. Oxy. 2588-91.

(92) P. Oxy. 287.

(93) Calderini, id ; p. 58-81 ; Wallace, Taxtion, p. 36 ; N. Hohlwein, id ; p. 96 sq. I should like to thank professor Zaki Aly for drawing my attention to the sitologi receipts in Symbolae Osloenses, 1973, Five Papyri in Oslo Collection, by Matha Kat Eliessen, University of Oslo, which is very useful to this subject.

(94) See Calderini, θησαυμοι p. 77.

(95) P. Lond. 254. A.D. 133 : Johnson, Roman Egypt, p. 462.

(96) The samples were sent to Alexandria under the seal of the strategus and royal scribe : P. Lond. 256 ; Gueraud, Sachet ayant contenu un echantillon d'orge, in **Ann. du service des Antiquites.** 33, 1933, p. 63.

P. Lond. 256 (= Wilcken, chr. 344) A.D. 11 : The sitologi were to measure to the public farmers seeds in accordance with the samples (96), to take from the farmers the regular affidavit that they are to irrigate and seed all the lands about the village with the proper crops (97), to leave no field untilled whether flooded or unflooed through neglect, to take nothing of the seeds for their private consumption, and that they are to repay the seeds along with the rent at fixed charges without any deduction in the second year (98). And for this the sitologi are to take the regular receipts (99). The sitologi, after accomplishing the orders issued to them by the strategus and the royal scribe, kept daily accounts of the **δάνια σπέρματα** in their account books and recorded them in their reports(100). It was expected that a substitute in the sitologia ought to distribute **δάνια σπέρματα** but there is no mention of that in such agreements (101). Therefore, an investigation

(97) The farmer had to present an application to the strategus and the royal scribe (P. Hamb. 19 ; St. Pal. XX 34 A.D. 232-3) or, since mid-third cent A.D., to a commission of general officials (P. Oxy. 1031. A.D. 228 ; P. Oxy. 1262 ; P. Tebt. 397 P. Flor. 21. all 3rd cent A.D.). The village secretaries were ordered to verify the sincerity of the application (P. Tebt. 341. A.D. 140) in order that the central administration could fix the whole amount needed for the whole nome.

(98) The farmers gave a receipt with a sworn declaration to the sitologi that they will repay the loan with the rents : P. Philadelphia 15.18. A.D. 123-4, BGU. 835. 18 ; BGU. 701 ; 3. A.D. 156-7 ; P. Tebt. 341. 4. A.D. 140-1 ; P. Oxy. 1024. 13. A.D. 129.

(99) Wilcken, **Archiv. f. Pap.** III, p. 236 ; BGU. 1851 ; P. Tebt. 377 ; P. Flor. 21 : P. Oxy. 1031 ; P. Oxy 1262 ; P. Lond. 254.

(100) Thunnell, Sitologen Papyri, 1 vii, 12 ; 4 Riii, 13 ; p. 82. BGU. 1936. A.D. 156-7 ; P. Lond. 900. A.D. 96. λόγος ἀνηλώματος σπερμάτων P. Lond. 254, II P. 226 ;λόγος σπερμάτων εἰς τὸ χ ἔτος P. Ryl. 72 verso iii, 99-98 B.C. P. Fay. 339, 2nd cent A.D. Oxy. 833. 1st cent A.D. Calderini, θησαυροι p. 8. cf. Wallace, Taxation p. 35.

(101) cf. P. Oxy. 2769, P. Mich. inv. 259.

of the **δάνια σπέρματα** may shed a light on the capacity of the granaries (102).

In the Pharaonic times the overseer of the granaries had to care for the plenty of corn to be sufficient for the demands of the officials, public servants and soldiers (103). The overseer had to take the usual receipt when he delivers to an official his share in corn (104). The granaries worked as banks since the Pharaonic periods and the overseer of the granary worked, in many cases, as overseer of the treasury in the same time, and paid salaries to the officials in kind (105)

The overseers of the granaries, in Pharaonic Egypt, used to pay salaries in kind and take receipts in accordance with the orders of a higher official (perhaps equal to the nomarch). The sitologi in both the Ptolemaic and Roman periods, paid wages in kind in accordance with the order of the strategus (106). The relation between the granary and the bank remained similar to that was between the granary and the treasury in the Pharaonic periods. The strategus issued one and the same order to both the sitologus and the banker in order that the sitologus had to poy wages in kind and the banker in money(107). It seems

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(102) Calderini θησαυροι p. 41 - 5 El. M. Husselman. The granaries of Karanis, **TAPA.** 83, 1952, p. 56-73, Zaki Aly, **Aegyptus,** 1970, p. 81-2.

(103) A. Erman and H. Ranke, Aegypten and Aegyptisches Leben Altertum, ch. VI ; R. Lepsius, Denkmaeler aus Aegypten und Athiopien, III, 77, 77 C.

(104) AZ = **Zeitschrift für äegyptische sprache und Altertumskunde.** 1880, p. 97 sq.

(105) A. Erman and H. Ranke, id.

(106) BGU. 1232. 3rd-2nd cent B.C. ; 1754. ii. 63 B.C. ; N. Hohlwein, Le Blé d'Egypte, p. 97 ; P. Col. 1 R4. Col. 1. A.D. 155.

(107) BGU. 1749. 63 B.C. The sitologi and their assistants must have heen well informed about the value of the crops and their equivalent in money. cf. P. Tebt. 89. 113. B.C. ; R.A. Coles, Four Papyri from the **Bitish Museum,** N. 2 (= P. Lond. inv. 1969. A.D. 198) in **JEA.** 52, 1966 p. 131 sqq.

that the sitologi acted hand in hand with the bankers ([108]), but it will remain unanswered question to know who were the sitologi who worked as bankers and which thesauroi worked as banks.

It is interesting to find accounts ([109]) and receipts ([110]) of the sitologi recording the frumentum emptum, **πυρὸς συναγοραστικός** In this connexion, says Rostovtzeff ([111]), the emperors of the 2nd and 3rd cent, A.D. were extremely active in building large granaries in the provinces, especially, the corn-producing provinces, of the Empire. Their. main purpose was, of course, to facilitate the vistualling of the capital and of the troops. The record of **πυρός συναγοραστικός** in the documents pertaining to the sitologi may indicate that these are sitologi in large granaries. Moreover, such compulsory purchase of corn attests cooperation of the sitologi with both the bankers, who naturally paid the reduced prices in money, and the other financial and administrative ([112]) authorities in regard of the adaeratio ([113]).

The annona militaris is also recorded in documents of the sitologi ([114]), and was stored in the granaries under their

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(108) This my be the case of the certificates which the shippers introduced to the bankers that they shipped an amuont of corn from the granary in order to get their salary in money : P. Col. 1R 4 Col. i

(109) Thunnell, Sitologen Papyri, 1 Vi, 10 and p. 81 ; Rostovtzeff, Soc. and Econ. Hist of Rom. Empire, p. 721 note 45.

(110) P. Tebt. 100 bi. 16 ; P. Tebt. 369. A.D. 148 ; P. Oxy. 1541. A.D. 192.

(111) Rostovtzeff, id ; p. 701 note 21.

(112) The village officials countersigned the accounts of the sitologi : P. Tebt. 89. 113 B.C.

(113) Preisigke, Girowesen, p. 138, sqq ; Wallace, Taxation, p. 22 sq., 365 ; P. Oxy. 2125. A.D. 220-1 ; Wilcken, Chr. 413. A.D. 19 ; Johnson, Roman Egypt, p. 546.

(114) BGU. 336. A.D. 216 : A receipt by sitologus for the annona militaris.

superintendcy (115), until it was requested to be transported to the legions stationed in various positions of the country(116). It is difficult to specify the role of the sitologi in regard of the annona militaris. The earliest receipt of the annona is dated in A.D. 185 (117), while special collectors of the **ἀννώνη** are not exactly known especially in the 1st and 2nd cent. A.D. (118). There were certainly collectors of the military annona, but it seems that they were not attached to the granaries (119). Although the strategus was responsible for the annona (120), the collector of the annona militaris sent his notification to the decurion (121). But in mid-third cent. A.D. we are met with officials whose concern was the annona militaris (122). It seems that the **ἀπαιτήται** were engaged in collecting the annona militaris, and the **ἐπιμεληταί** received it to deliver it to the soldiers (123). The function of the sitologi in regard of the military annona might have been keeping th corn delivered in the account of the annona mili-

(115) Zaki Aly, **Aegyptus**, 1970, p. 1.

(116) P. Oxy. 2766. A.D. 305 : Sabinus, Kiarouris and Louteus are likely to be sitologi.

(117) PSI. 681. A.D. 185.

(118) P. Jouguet, La Vie municipale, p. 387 sqq. ; Wilcken, Grundz. p. 360 ; Rostovtzeff, Frunentum, in Pauly-Wissowa, vii ; P. Sak, La perception d'annone militaire dans l'Egypte romaine, **Melanges ch. Moeller** (Rec. de trav. etc. de l'Univ. de Louvain, 40, 1917 ; Lesquier, L'armee romaine d'Egypte, p. 350 sqq ; Rostovtzeff, Soc. and Econ. Hist. of Rom. Empire.

(119) Rostovtzeff, id ; p. 696 note 6.

(120) PSI. 683. A.D. 199.

(121) BGU, 81. A.D. 189.

(122) The ἀπαιτητής : P. Lond. 1157 verso. A. D. 246 ; The ἀπαιτηται ἀννώνης since A.D. 253 and the ἐπιμεληται since A.D. 265 Wallace, Taxation, p. 223 365, note 11.

(123) P. Oxy. 2766. A.D. 305, note 1. 5.

(124) cf. BGU. 81. A.D. 189 ; El-L. Husselman, The granaries of Karanis, **TAPA** 83, 1952, p. 56 sqq.

taris, perhaps storing it in separate places in the granaries(124), and registering it in their books (125). But the question of the military annona is a difficult problem.

The topic of the sitologia and the sitologi will remain fragmentarily known until a further analysis of the documents pertaining to the sitologi and the various activities of the sitologi, within and wthout the sitologia, takes a place (126).

It is said that the number of the sitologi differed in acconrdance with the size and importance of the granary and that the sitologi of small granaries were responsible before those of large ones (127). The hierarchy of the sitologi began by those of the granary of a village culminating to those of central granary (128). Such hierarchy might have existed in the first three centuries of our era, as one understands from documents such as P. Lond. 900. A.D. 96 : the report of receipts seems to be depicted either by a principal sitologus or sitologi of a

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(125) cf. Wilcken, Grundz. p. 152 sq ; 356 sq ; Preisigke, Girowesen p. 13 sq ; Schubart, Einfuhrung p. 250, 409 sq ; D. van Berchem, L'annone militaire.

(126) Thunnell, sitologen papyri ; Westermanu and Keyes, Tax Receipts and transportation Receipts, P. col. 1, Recto 6, Calderini, θησαυροι; Preisigke, Girowesen, Wilcken, Grundz ; P. Fay. 208-11 ; Johnson, Roman Egypt ; Zaki Aly, **JJP.** IV., p. 289-307 ; id., **Akten des Intern. kongr. f. Pap.**, 1955, p. 17-22 ; id., **Aegyptus** 1970, p. 74-87.

(127) Calderini, θησαυροι , p. 58-81, 103-4 ; Wallace, Taxation p. 36.

(128) The hierarchy of the sitologi respectivly goes as follows : σιτολόγοι θησ. κώμης (P. Oxy. 276. 10) ; σιτ. τινῶν κωμῶν(P. Oxy. 384); σιτ. Απιάδος καὶ ἄλλῶν κωμῶν St. Pal. IV; 118. 2; P. Ryl. 202); σιτ. τόπων (St. Pal. XXII, 94) ; σιτ. μέσης μερίδος (P. Oxy. 384) ; σιτ. τοπαρχίας (BGU. 976) ; σιτ. μητροπόλεως (P. Tebt. 370. 7) ; σιτ. τοῦ νομοῦ (BGU. 976 ; 977).

central granary (129). Moreover, the sitologi of a central granary were recording in their monthly accounts or reports the amounts entered into the accounts of the temples (θησαυρὸς ἱερῶν, ἱερατικά) (130). Thus, it is inferred that the sitologi received even the corn delivered on the account of the θησαυρὸς ἱερῶν (131). In such a case the hierarchy of the sitologi seems a valid hypothesis.

Since the responsibilities of the sitologi were of great variety, especially in large granaries, it was natural to meet other participants cooparating with the principal sitologus of the granary. It is suggested that the collegia of the sitologi was an innovation by Tiberius (132). This suggestion may be attested by the fact that the earliest example of this collegia is dated by A.D. 23 (133). οὐν ἄλλοις P. Oxy. 287). It does seem to me not a mere chance that the various expressions of the collegia became more frequent in the 2nd cent. A.D. One is inclined to think that this frequency was relevant

(129) The ἀρχισιτολὸγος is met with both in the Ptolemaic and Roman periods, see Caldrini, id ; p. 47. But cf. P. Tebt. 89. 113 B.C. ; the village scribe compiled the account mentioning amounts delivered to the sitologi.

(130) P. Fouad, 67. A.D. 39. see Zaki Aly, JJP. IV. p. 296.

(131) The sitologi collected the ἱερατιπῶν καθηπόντων (Thunnell, Sitologen Pap. ; p. 68 sq.) it seems that the σιτολὸγοι ἱερατικῶν were designated to receive the ἱερατικῶν ταθηκόντων from special officials in the θησαυρός τῶν ἱερῶν. see P. Upps. 3 ; P. Fay. 81 ; Johnson, Roman Egypt, p. 315, 565, 639 sq ; Calderini, θησαυρὸι p. 35-40 ; Otto, Priester und Temple, II, 9. 43 ; (Thunnell, sitologen Pap. p. 56 sq., 67, 68.

(132) Preisigke, Girowesen, p. 47 ; Calderini, θησαυροι.

(133) The expression καί μέτοχοι since A.D. 85 (P. Lond. II. 290. II p. 89) καί λοιποί in the 2nd cent. A.D. (St. Pal. XXII 118. A.D. 116) ; χ καί ὁ σὺν αὐτῶ σιτολόγος in the 3rd cent. A.D. (P. Oxy. 1530. A.D. 215-6) ; καὶ οί κοινωνοί in the 4th cent. A.D. (PO Oxy 1542. A.D. 307). see Calderini, id.. p. 75 sqq.

(134) P. St. Pal XX, 52 A.D. 242 may be the latest example καί μέτοχοί

to system of liturgy. It is interesting to notice that the expression **καί μέτοχοι** does not appear in the papyri at approximately the same time when we began scarcely to meet the sitologi (134), and to see that the expression **καί κοινωνοί** began to be mentioned in the papyri at nearly the same time of the return of the sitologi to be met with in the papyri (135). These associates, at any rate, were collaborating with the sitologi in collecting the various items of revenues in kind. The number (136) of the sitologi and their assaciates, naturally differed in accordance with the size and importance of the granary. As long as such was the case, it should be agreed with the suggestion concerning the hierarchy and progression in rank of the sitologi.

It seems that the 4th cent. A.D. had seen administrative and finacial changes in the field of the sitologia. Due to Diocletian's reforms, various agricultural sectors changed conditions. The royal land, per example, passed into private hands (137). On account of these changes, perhaps, we began to meet stologi designated for the collection of revenucs from the villages (138), sitologus of the revnues from the citizens

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(135) P. Oxy. 1542. A.D. 307. is the earliest example of καί κοινωνοί see E.G. Turner, Dekaprotoi, **JEA**, 22, p. 7-99 ; Zaki Aly, **JJP.** IV p. 305 sq. I wonder if there is any relation between the expression σύν ἄλλοίς, καί μέτοχοι, καί λοιποί and καί κοινωνοί and any administrative changes. The expression καί κοινωνοί seems significant and relevant to, perhaps, the reforms of Diocletian.

(136) The number of the sitologi, except their associates, differed in accordance with time and place. They were four sitologi in the granary of the Mendesian toparchy (BGU. 976. A.D. 152-3) and in Theadelphia (P. Thead. 50. A.D. 324).

(137) A.E.R. Boak and H. C. Youtie, The Archive of Aurelius Isidorus (Michigan 1960) No. 9 ; and P. 109 ; H. I. Bell, **JEA.** 47, 1961, p. 171 sq ; H.I. Bell, Egypt from Alexander to the Arab Conquest, p. 99 sq.

(138) σιτολόγος κωμητῶν κώμης (P. Thead. 28. 5. A.D. 320).

or metropolitans who have lands in the village (139) and sitologi of both metropolitans and villagers (140). There were also **σιτολόγοι ἱερατικῶν** (O. Br. Berl. 6) (141). It is not clear to me where these sitologi stand in the suggested hierarchy of the sitologi. The sitologi, as it seems, distinguished between the **κωμητικά** or **πρόσοδος κώμης** (143), which were collected from the villages, and the **πολιτικά** which were collected from the municipalities (144) in the third cent. A.D. But it is not clear whether the distinction between the **κωμητικά** and the **πολιτικά** was a matter of accounting, or each sitologus of each class kept his own account-books in the fourth cent. A.D. (145) in separation.

The granaries were directed by a number of sitologi, in most cases, for one year (146). But other number, when needed for, was added and their names were described by a par-

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(139) σιτολόγος πολιτῶν τῆς αὐτῆς κώμης (P. Leit. 3. A.D. 113) see N. Lewis, introd. to P. Leit. 3.

(140) σιτολόγος πολιτῶν καί κωμητῶν (P. Cairo Isidor, 76-77. 4th cent A.D.).

(141) One may compare the σιτολόγος ἱερατικῶν with the accountant and overseer of the granaries of the gods of Tais in the Pharaonic Modern Kingdom. cf. A. Mariette, Catal. general des conuments d'Abydos, London 1868, 29 ; Erman and Ranke, Aegypten und Aegyptisches Leben Altertum, ch. VI.

(142) P. Ryl. 221 ; P. Tebt. 340 ; Th. O. 79.

(143) P. Tebt. 551.

(144) P. Oxy. 1419. In his report to the strategus, the decemprimus classified the detailed payments under tree headings : πολιτικά, κωμητικά and θέματα P. Oxy. 1444. see Johnson, Roman Egypt, p. 566. 572 ; Rostovtzeff, Soc. and Econ. Hist. of the Rom. Empire, p. 746 ; Zaki Aly, **Aegyptus**, 1970, p. 84, note 1.

(145) cf. Preisigke, Girowesen, p. 13 sq ; Schubart, Einfuhrung, p. 250. 409 sq ; N. Hohlwein, Le Blé d'Egypte, p. 93.

(146) Preisigke, Girowesen, p. 51 sq ; Calderini, θησαυροι, p. 58 sqq. ; Zaki Aly, **JJP**, IV. p. 301.

ticiple **σιτολογῶν** ([147]). It is not clear whether the use of the participle **σιτολγῶν** had, or not, a different significancy from the noun

The verb **σιτολογέω** was used since the Ptolemaic period to refer to a person who discharged the office of sitologus ([148]). The person ascribed to as acting as sitologus **σιτολογῶν,** perhaps, was nominated for a short interval. The custom was to increase the number of the sitologi, especially in the time of the harvest ([149]).

Since A.D. 94-96 (P. Tebt. 338) particular officials are specified as **σιτολόγοι ἐν κλήρῳ** These sitologi are met with in various places ([150]). A. Calabi had discussed the expression **ἐν κλήρῳ** suggesting that it refers to an official nominated for an incidental profession ([151]). Therefore, one may agree that the sitologi **ἐν κλήρῳ** were nominated to supervise the corn when directed to its destination ([152]), but we know nothing exact about the duration of their office[153].

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(147) σιτολὸγος καί μέτοχοι οί σιτολογοῦντές τήν . . . μερίδα (P. Oxy. 287. A.D. 23) in a receipt issued by two sitologi, they put their signature : Ζώιλος σιτολογῶν . . . Πλούταρχος σιτολογῶν (a papyrus published by Zaki Aly, **Aegyptus** 1970, p. 78).

(148) PSI. 412. 3. 3rd cent B.C ; σιτολογέω τινὰς τὸπους (P. Goodspeed Cair. 7. 5. 2nd cent B.C) σιτολογέω τὸν ἱππικον (P. Tebt. 2. 2nd cent. B.C.).

(149) In A.D. 186 there were two sitologi in Karanis, and the number increased to even four in A.D. 215 (Calderini, id., P. 77) In one and the same place we meet three sitologi καί λοιποί of Tubi, (BGU. 835. A.D. 217) and a montf later they became four sitologi καί οἳ λοιποί (BGU. 64) cf. Preisigke, Girowesen, p. 47.

(150) Tebtunis (P. Tebt. 338) ; Karanis (BGU. 188. 8. A.D. 186) ; Apias (BGU. 792. 15. A.D. 196-7) ; Mendes (P. Tebt. 340. 29. A.D. 206).

(151) A. Calabi, **Aegyptus,** XXXII p. 406 sqq.

(152) cf. Oertel, Liturgie, p. 253.

(153) Calderini, θησαυροι , p. 72, 78 ; Oertel id ; p. 253 sqq.

P. Tebt. 340 supplies us with an niterpraetation about nature of the function of the sitologus **ἐν κλήρῳ** : The **σιτοπαραλῆμπται** presented a monthly report to the strategus of Mendes (11. 4-5) through the mediation of the secretary, i.e. fulfilling the function of the sitologi.

In the second column a certain Isidoros **ἐν κλήρῳ σιτολογίας κώμης** presented a report to the same strategus. So, both the **σιτοπαραλῆμπται** and the person **ἐν κλήρῳ σιτολογίας** carried out the very same function, and we may say that the person **ἐν κλήρῳ σιτολογίας** corresponded the **σιτολόγος ἐν κλήρῳ** who might have been nominated from officials attached to the collection of the revenues and awaiting the final selection (154).

At the granaries, the grain had to be winnowed, cleaned and verified. Since the Ptolemaic period there was the **λικμητής**, winnower, attached to the granary (155). A fee for winnowing at the granary, **τὰ λίκμητρα** , was probably paid by the tax payers(156). There is another official, the **κοσκινευτὴς**, attached to the process of winnowing of the grain since 3rd cent. B.C. (157). The **κοσκινευτικὸν**

(154) P. Strassp. 57. 2nd cent. A.D. ; Preisigke, Girowesen, p. 58 ; Oertel, Liturgie, p. 257. N. Lewis, Leitourgia Studies, in **Proceed, of the IX Intern, Congr of Pap.** 1958, p. 234 sqq. proves that the officials designated as being ἐν κλήρῳ were nominees to the office functioning pro tempore while awaiting the final selection that would appoint one or more of them and release the others. In the meanwhile, these officials ἐν κλήρῳ actually functioned in office : declarations are addressed to them, receipts and reports are issued in their names.

(155) P. Fay. 101. 4. 1st cent. B.C ; P. Philadelphia 17. 10 2nd cent. A.D.

(156) SB. 7373. 15. A.D. 29 ; P. Oslo 33. 15. It is certain that the λίκμητρα were paid at the granary, while the τὰ ἀλόητρα (P. Oslo, 33) were the fees for winnowing at the threshing-floor, see Scherer, Papyrus de philadelphia, p. 81. Wallace, Taxation, p. 370.

(157) PSI. 365. 18. 3rd. cent. B.C : P. Cair. Zen. 292. 484. 3rd cent B.C.

was charged since the Ptolemaic period ([158]). Such officials and fees are expected to be attested both in the Ptolemaïc and Roman periods since the standard for tax payments was **πυρὸς νέος, καθαρὸς, ἄδολος, ἄκριθος, κοσκινευμένος** ([159]). There was an official specified as **ὅ ἐπὶ τῆς καθάρσεως τοῦ δημόσιου πυροῦ** (P. Fay. 23 all. 2nd cent. A.D.).The difference between the nominations **λίκμητρα-κοσκινευτικόν, λικμητής-κοσκινευτής** in regard of the taxation is in need of consideration. Both the **κοσκινευτής** and the **λιπμητής** were met with in the Ptolemaic and the Roman periods. Therefore, either both the **λικμητής** and the **κοσκινευτής** were two names of one and the same official, the winnower, but the name differed according to the locality, or the **κοσκινευτής** was the sifter and the **λικμητής** was the winnower ([160]). If this later suggestion is right the function of the **κοσκινευτής** perhaps, began where that of the **λικμητής** came to an end ([161]). We can

(158) P. Petr. 3, P. 215. 3rd cent. B.C ; P. Ryl. 71. 10. 1st cent. B.C. ; P. Tebt. 92. 9 sq. 2nd cent. B.C. : προσμετρουμένων είς τὰς καθάρσεις καί τὸ κοσκινευτικίν (ἀρταρβῶν) P. Strassb. 435 is considered by Johnson (Roman Egypt, p. 566) to be the only clear example for a fee imposed for winnowing, κοσκινευτικόν though the winnowing place, κοσκινευτήριον, was found in the Roman period (P. Ryl. 215. 34 2nd cnt. A.D.) see Johnson, id, P. 511 ; P. Lond. 1125. 11., A.D. 70 ; Thunnell, sitologen Pap., p. 65 sq.

(159) V.B. Schuman, Light on taxes kind in Roman Egypt, **Proceed. of IX** Intern. Cong. of Paprol, 1958, P. 245 sqq. P. Hib. 98. 19. 252. B.C. ; **Intern. Cong. of Papyrology,** 1958, P. 245 sqq. P. Hib. 98. 19. 252. B.C. ; 20-22. 3rd cent. A.D. ; P. Philadelphia 17. 13. 2nd. cent. A.D. and note 13 ; N. Hohlwein, Le Blè d'Egypte, P. 83 sq ; 100.

(160) Liddell and Scott, s.v. λικμητής, κοσκινευτής Preisigke, WB, I, II. WB, I, II.

(161) Such successive stages of winnowing then sifting are still in use at the granaries and the threshing-floors in modern Egypt in order to obtain a high standard of cleanliness of the corn. It is expected to meet separate officials of each stage, especially in large granaries.

imagine the importance of these officials, who were subordinates of the sitologi (162). When they thoroughly accomplished their work, they freed the sitologi from great trouble (163).

The heaps of corn, or perhaps the sacks, ought to be marked and sealed in the granaries. We meet once an official named as **στικτής** in the second cent. A.D. (164). The " marker " **στικτής** is not attested as an official in the thesaurus(165). Moreover, his relation to the **ἐπισφραγιστής** whom we meet in the 3rd 3th. cent. is an obscure one. The **στικτής** was either a local nomination or a marker who assisted the **ἐπισφραγιστής** There is an evidence about the process of sealing the corn in the granary since the 2nd. cent B.C. (166). While an official nominated for sealing the grain is not met with in the 3rd cent. B.C., the boat-captain Dionysius brought a smoothing-rod with him from Alexandria (167). It seems that this smoothing-rod, **σκυτάλη** was used for the purpose of sealing.

The financial administration had to take various precautions against mishaps (168) by the sitologi. Therefore the strategus entrusted to his agent to seal the granary (168). As

(162) P. Philadelphia 17. 2nd cent. A.D.

(163) cf. P. Oxy. 708 ; P. Oxy. 1447 ; Johnson, Roman Egypt, p. 416.

(164) The word στιπτής is a rare one. It is found in Herodote 5.65 meaning tattooer. In the 2nd cent. A.D. the στικτῆς is met as an official attached to the granary and receiving an amount of grain which seems to be a fee, Scherer, P. Philadelphia 17. 10 names him as " marker ".

(165) Calderini, θησανροι p. 86 sq.

(166) τὸν παρ'ἐμοῦ . . . σφραγισάυενον τὸν θησαυρὸν P. Amh. (P. Amh. 41. 8. 2nd. cent. B.C.).

(167) P. Hib. 98. 252 B.C.

(168) PSI. 1100. A.D. 161 : the sitologi carried away the corn from the granary and the strategus was put in trouble. P. Amh. 79. A.D. 186 : the sitologi took the corn and sold it to the merchants. see more examples in Calderini, θησαυροι ; Meautis, Hermoupolis, P. 179.

(169) καί πάλι τῆι σῆι σφραγῖδι ἀσφαλῶς κλείσας σφράγιστον (P. Flor. 3-8. 2nd. cent. A.D.).

far as evidence goes, the process of sealing went as follows : The boat - captain brought σκυτάλη with him in the 3rd., cent. B.C. In the period between 2nd., cent. B.C. and 2nd., cent. A.D. ; sealing was entrusted to particular agents, such as the agent of the strategus. By the 2nd., cent. A.D. we meet the στικτής , if he was an official in the granary. In the third cent. A.D. we meet an official specified as ἐπισφραγιστής (170), who might have special wooden seals (171). The ἐπισφραγισταί were subordinates of the sitologi, received taxes, inssued receipts to the tax payers (172), presented reports to the strategus (173), delivered the grain to the shippers and took from them receipts (174).

The sitologi were not only mere directors of the granaries, who received revenues in kind from the tax-payers and delivered them to the shippers, but also had to collect corn paid on behalf of other villages (175) and that païd into the accounts of temples (176). The sitologi had to be acquainted with all

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(170) P. Ryl. 90. 43-44. early 3rd cent. A.D. : a person nominated εἰς τὸ προστήναι τοῖς δημ. θησ. καί συνσφραγίζειν P. Tebt. 340. A.D. 206 is earliest mention of ἐπισφραγιστής.

(171) See about the wooden seals in the coptic Museum in Cairo : Zaki Aly, JJP. IV p. 295 sq.

(172) P. Tebt. 340. A.D. 206. A.D. P. Oxy, 1490.

(173) P. Fuad No. 233 A.D. 229 JJP, IV p. 295).

(174) St. Pal. XX 32. A.D. 231. P. Oxy. 1491. 4th cent. A.D. ; Preisigke, Girowesen, p. 58 ; Oertel, Liturgie, p. 257, note 1 ; Wallace, Taxation, p. 36 ; Calderini, θησ., p. 86 sq.

(175) ὑπὲρ ἄλλαν κωμῶν : Thunnell, sitologen papyri, p. 70 ; P. Ryl 209.

(176) It seems that contribution paid for religious purposes such as the σύνταζις of the temples (P. Upps. 3 ; P. Fay. 81 ; Johnson, Roman Egypt. p. 513 ; Wallace, Taxation, p. 29) were of great importance in places which enjoyed distinguished religious position as in Thebes (Wallace, id., p. 36), consequently, the sitologi kept in their books a record for the ἱερατικῶν καθηκόν:ων paid in the accounts of the θησαυρός τῶν ἱερῶν.

the system of taxation and fees, to distinguish what was requested from private or catoecic or cleruchic land. They ought to be of effecient capacity in regard of accountancy, since they had to meet a long list of various payments. Besides, payments of the public corn **δημόσιος πυρός** which differed in its rate (177) from place to another, there were the various fees of transportation (178). The records of the sitologi indicate payment for rental of the granary **ἐνοίκιον θησαυραῦ** (179) and a charge for storage **πόδωμα** (180). It is highly probable that **ἐνοίκιον θησαυροῦ** and **πόδωμα** were two local names for one and the same fee (181). P. Oxy.

(177) The rate of taxes differed also in accordance with the status of the land, 11 e.g. ἰδιωτικά ἐδάφη possessed by soldiers paid a tax of one artaba, ἀρταβιεία (P. Brux. 1), see N. Hohlwien, Le Blé d'Egypt, p. 51

(178) δραγματηγία καί σακκηγία : P. Tebt. 277 ; 375 ; P. Lond. 900 BGU. 1363 : 439 ; 831 ; 921 ; P. Upps. 1, 4. 5 ; φόρετρον : P. Upps. 3.4 ; BGU 1018 ; 227 ; P. Lond. 322 ; P. Oxy. 740 ; 277. These were fees of transport of the corn from the threshing - floor to the granary, and from the granary to the harbour. διάφορον φορέτρου : P. Fay : 38 ; 86 ; P. Upps. 1, 3.4 ; BGU. 835 ; 988 ; Kalen, Leihgabe, p. 45 : a payment for transport of corn deposited at a local granary more distant from the point of shipment. ἐπισπουδασμὸς φορέτρου: Thunnell, Sitologen Papyri, p. 66 ; Johnson, Roman Egypt, p. 510. The ἐπίτριτον (P. Tebt. Sitologen Papyri, p. 66 ; Johnson, Roman Egypt, p. 510. The 363) is suggested to be pertaining to transportation, but not attested in the records of the sitologi, for the ὀνηλασία see P. Bour. 42 ; transportation, but not attested in the records of the sitologoi, for the Johnson, id., p. 511 ; Wallace, Taxation, p.78 ; Oertel, Liturgie, p. 116 sqq.

(179) P. Hamb. 64 ; P. Giss. 60. In P. Tebt. 520 this fee is $1/2\%$ of the total rent. cf. Kalen, Leihgab, p. 299.

(180) BGU. 743-4 ; P. Philadelphia 17. 18 and note. cf. Thunnell, id. p. 77 sq., Wallace, id ; p. 40, 45, Johnson, id ; p. 511.

(181) cf. Kalen, id, p. 293 sqq ; Wallace, ibid. If the δημόσιον ἡμιαρτάβνοι in P. Oxy. 2769. 11-12 was for the πόδωμα it does not agree with the said διαρταβία in Oxyrhynchus, see Wallace, id., p. 40. P. Oxy. 1443. 10. A.D. 227.

2769. 11-12 attests Kalen's point of view that both $^1/_2\%$ and 1% were sent to Alexandria to cover possible shortage or adulteration (182). The **προσμετρούμενα** indicates how far the sitologus ought to be of great capacity. Kalen regarded these supplementary charges to be different from one nome to the other due to different standards of measuremnts (183). But **διαρταβία** is found in Oxyrhynchus (P. Oxy. 1443. 10) side by side with 4% (P. Oxy. 1447) and the **ἡμιαρτάβιον** (P. Oxy. 2769. 11). In other case the **πενταρταβία** was levied alone (P. Giss. 60. 31) or with the 2 - choenix tax (BGU. 1636). Moreover, the **προσμετρούμενα** were collected in addition to the $^1/_2\%$ or the 2 - choenix or the 5% (184). The sitologi collected also various fees such as the **σιτομετρικόν**, fees for measuring corn (185). Payments in money, **τὸ ὀβολόν** were recorded in the receipts by sitologi (186), and were regarded as an adaeratio for the supplementary charges. The **ὀβολισμὸς ποταμίων πλοίων** which was demanded by the shippers may indicate that the **ὀβολόν** was relevant to river transport, **φόρετρον** (187). It could be simply said that taxes, fees, expenses arrears and penalties were collected by the sitologi as far as they were in kind.

The sitologi, being engaged in so multiple tasks, were in

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(182) Kalen, id., p. 299 ; Wallace, id., p. 44 sq.

(183) Kalen, id., p. 231 sqq., Johnson, id., p. 512.

(184) Thunnell, sitologen papyri, p. 59 sqq ; Wallace, Taxation, p. 38 sqq.

(185) P. Hib. 110. 14. 3rd., cent. B.C. ; P. Oxy. 740. 23. 2nd - 8rd., cent. A.D. Wallace, id ; p. 42 ; Johnson, Roman Egypt, p. 513.

(186) P. Fay. 85 ; P. Tebt. 368 : Th. O. 125 ; O. Teb. 8 ; W.O. 1008, P. Flor. 7 ; BGU. 1613.

(187) PSI. 1048 ; Johnson, id., P. 512 ; Kase, Sitologus Roll, 22 for a similar tax : τὸ δηνάριον τοῦ μεδίου which was found in the Byzantine period ; Wallace, Taxation, p. 44, 373.

need of a considerable body of assistants. The **φροντισταί** are met with receiving payment for **φόρετρα** (188). The **βοηθὸς σιτολόγων** was the assistant of the sitologi, but it is difficult to definite his responsibilities to the siotlogi. When the **βοηθός** issued receipts (189), he then, worked as a subordinate of the sitologi. But the **βοηθὸς σιτολόγων** is met with working as assistent of sitologi of two granaries in two different places(190). In such a case the **βοηθός** seems to be like an expert who helped in more than one place. In another papyrus the **βοηθός σιτολόγων** rendered himself fully responsible for the recovery of the half of the value of a deposit without any reference to the sitologus (191). Both the **βοηθοί** and the secretaries **γραμματεῖς** worked under the sitologi, and their number varied in accordance with the size of the granaries (192).

There were officials who helped the sitologi, but also described as associates. The **σιτοπαραλῆμπται** worked in the granaries since the 2nd cent. A.D. in relation with **δεκάδαρχος** being engaged in movement of grain production from the granary (BGU. 81. A.D. 189). Oertel seems to be right to think

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(188) The category of these officials is not clear in the single known example (P. Grenf. 44. A.D. 101) whether they were secretaries of sitologi. φροντισταί σιτολ(όγων) or a certain categary of sitologi φροντισταί σιτολ(όγοι) see Calderini, θησαυροι p. 82, and p. 58 : προστάται καί σιτολόγοι

(189) W.O. 867 ; 858. all A.D. 141.

(190) P. Oxy ; 1539. A.D. 179-180.

(191) R. Coles, Four Papyri from the British Museum, **JEA**, 52, 1966 No. 2 = P. Lond. Inv. 1969 (and its duplicate P. Lond. Inv. 1970) A.D. 198.

(192) Preisigke, Girowesen, p. 57 ; òertel, Liturgie, p. 256 ; Calderini, Φησαυροι p. 82 sqq ; Wallace, Taxation p. 26.

that these **σιτοπαραλῆμπταί** were originaly in charge of military annona ([193]), since they are met with distributing corn to the soldiers ([194]). In the third cent. A.D. the **σιτοπαραλῆμπται Ἑρμοῦ πόλεως τόπου Ἑρμοπολίτου** presented a monthly report of the grain existed in the granary to the strategus, while in the 2nd., column of the same papyrus, Isidorus who is in **κλήρῳ σιτολογίας** did the same thing (P. Tebt. 340. A.D. 206)([195]) BGU. 425. 2nd/3rd A.D. ; where the name of each sitologus is followed by the name of the **σιτοπαραλῆμπτης** . attests Oertel's suggession that the **σιτοπαραγῆμπται** became dependants of the sitologi due to administrative and financial alterations by Severus ([196]).

The **θησαυροφύλαξ** is met with both in the Ptolemaic and the Roman periods, but without specification of his functions ([197]). This official is met with in accounts of granaries receiving a salary ([198]). His name indicates that he worked as guard of the granary([199]), and it may be a Greek translation from the name of the guard of the door of the gra-

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(193) e.g. παραλῆμπται, συναγοραστιπῆς κριθῆς. and had relation with the πρεσβὺτεροι of Soknobainesus (BGU. 831. 2nd. 3rd. cnt. A.D.) cf. P. Philadelphia 21. A.D. 157-8. see also Πικῶς καί (μέτοχο) ἀρχύρ-(ου) παραλῆμπται μητροπ(όλεως) (W.O. 1433 A.D. 138-9) Oertel, Liturgie, p. 207 sq.

(194) W.O. 1128-1146 ; 1220 ; 1233 ; 1135 ; W.O. I, p. 705 sq. ; Wallace, Taxation, p. 36.

(195) See also SB. 5272. A.D. 304.

(196) Oertel, Liturgie, p. 207 sq ; Preisigke, Girowesen, p. 58 ; Paulus, Prosop. Beamtend. Arsin. Nomes, P. 146 ; Becker, Pap. Schott. Reinhardt, I, P. 33 Calderini, θησαυροι, p. 84 sqq.

(197) P. Cair. Zen. 292. 155. 3rd., cent. B.C. ; P. Tebt. 90. 40. 1st., cent. B.C. ; P. Tebt. 401. cii. 46. 1st., cent. A.D ; P. Oxy. 522. 2nd., cent. A.D. P. Fay. 225. 2nd 3rd cent. A.D.

(198) P. Oxy 522 ; P. Philadelphia 17. 2nd., cent. A.D.

(199) cf. P. Tebt. 848, note 1-3 ; P. Philadelphai 12 and note.

nary in the Pharaonic times (200). It is uncertain that the reference in P. Ryl. 90. 40-41. 3rd cent. A.D. meant this official, but it is more suitable for either the **κοσκινευτής** or the **σιτομέτρης**

Since early the 3rd. cent. A. D. the **ἐπισφραγισταί** cooperated with the sitologi in supervising the granaries and sealing the corn (201). The were associates **μέτοχοι** who presented monthly reports to the strategus (202), and also delivered the corn to the shippers in order to be carried to Neapolis (203). The **ἐπισφραγισταί** were either collega minors or assistants of the sitologi (204). Another official was attached to the granaries since the 3rd cent. B.C. This is the corn measurer, **σιτσμέτρης** (205), wha wsa also collega minor of the sitologus (206). The original function of the **σιτομέτρης** was to measure the corn and, (207)

(200) Kairo,, No. 20644 ; Erman and Ranke, Aegypten and Agyptisches. Leben Altertum, ch. V.

(201) P. Ryl. 90. 44 : προστῆ ναι τοῖς δημοσίοις θπσαυροῖς καί συνσφραγίζειν ἅμα τοῖς σιτολόγοις It seems that ἐπισφραγιστής sealed the granary, not the receipts, since an amount of corn ἀποκείμεναι ἐν θησαυρῷ ἐπὶσφραγίδι 'A . . . αντου ἐπισφραγιστοῦ (P. Tebt. 340. A.D. 206).

(202) P. Fuad, 233. A.D. 229, in JJP. IV., p. 289 sqq.

(203) Stud. Pal. XX. 32. A.D. 231.

(204) Aurelius Puouris the episphragistes submitted the report instead of others (P. Fuad, 233), so. he seems to act as assistant or secretary. See Calderini, θησαυροι P. 86 sq. ; Preisigke, Girowesen, p. 58 ; Oertel, Liturgie, p. 257.

(205) P. Tebt. 701. 296. 3rd cent. ; P. Hib. 100 verso. 9. 267 B.C. ; SB. 4263. 101 B.C.

(206) In P. Flor. 388. 46. 1st., cent. 2nd., cent. A.D. : σιτομέτρης Ἀρεῖος καί κοινωνοι the word κοινωνοί has been interpreted as a reference to the sitologi, see Rouillard, L'administration Civil de l'Egypte byzantine, p. 128, note 3.

(207) This appears in ἐκμέτρησις πυρος τῶν σιτομετρῶν (BGU. 977. A.D. 162, see P. Amh. 79. A.D. 186).

perhaps, receive a fee, the **σιτομετρικόν** ([208]). But this official was engaged as **σιτομέτρης σακκοφόρος** to carry the grain from the granary to the transport ships (PSI. 314. 4. A.D. 195) ([209]) In Frisk, Bankakten, I, XXII. 3. 2nd., cent. A. D. the **σιτομετροσακκοφόρος** is perhaps considered as an official different from the **σιτομέτρης** and that he was one who carried sacks for the **σιτομέτραι** P. Amh. 152. 5th-6th cent. A.D. ([210]) seems to attest N. Hohlwein's view that the **σιτομέτρης** collected the corn at the threshing-floor ([211]), but the **σιτομέτραι** are not attested in the **χώρα** ([212]). It seems that there was a college of **σιτομέτραι** in the Byzantine period, and we meet the **ἐπιστάτης ἐργασίας σιτομετρῶν** (BGU. 838. A.D. 578) ([213]). We are also met with the **σιταποδέκται** in the 3rd cent. and the 4th cent. A.D. collecting corn and issue receipts, but their functions are still in need of investigation([214]). They were, at any rate, attached to the granary and, perhaps, collected a certain category of taxes.

The **πράκτορες σιτικῶν** certainly cooperated with

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(208) cf. P. Hib. 110. 14. 3rd., cent. B.C. ; P. Oxy. 740. 23. 2nd-3rd., cent. A.D. ; P. Tebt. 520. early 1st., cent. A.D. In P. Philadelphia 17. 5, 19. 2nd., cent. A. D. the σιτομέτρης received 1/3 art. of wheat, which seems to be his fees. See Wallace, Taxation, p. 42.

(209) Kalen, Leihgabe, p. 276 ; Preisigke, W.B. II. s.v. ; Wallace, id., p. 37.

(210) IN P. Amh. 152 ἀπέλυσεν τὸ ὑπόλσιπον τῆς πριθῆς ἀπό Φοιπάμμωνος τοῦ υἱοῦ Απφοῦ τοῦ σιτουέτρου the official measures the government corn and releases the rest. This was done usually at the threshin-floor.

(211) N. Hohlwein, Le Blé d'Egypte, **Etudes de Pap,** IV., p. 80.

(212) cf. Wallace, Taxation, p. 37, says that the sitologi superintended the measurement of the grain brought to the granary.

(213) cf. H. Frisk, Bankakten aus dem Fayum, p. 27-28 ; Preisigke, Cirowesen, p. 57 ; Rouillard, L'administration Civil de l'Egypte Byzantine, Byzantine, p. 128 ; Caldirini, θησαυροι , p. 88-90.

(214) Calderini, id., p. 90.

the sitologi. It seems that their functions were so close to those of the sitologi that we meet an official named σιτολογοπράκτωρ (CPR. 43. 26. 3rd cent. B.C.), if this word is a right name of an official. Liddel-Scott-Jones interpret this word by a collector of dues for the sitologi. The πράκτορες σιτικῶν were certainly collectors of arrears (215), over-due payments and penalties (216). There is evidence which attests that the πράκτορες σιτικῶν collected the state income and delivered it to the sitologi (217). When the sitologi of φοβώου τόπων received a deposit of 100 artabae, the πράκτωρ σιτικῶν "endorsed and took that into account" (218). Moreover, the sitologi and their assistants presented a monthly report to the strategus stating that they have received 65 artabae of the produce of the current eighth year, which was the property of the praktor's office (219). It seems clear that the praktores sitikon were the officials who spread everywhere to collect the revenues, supervise its movement to the granary, deliver the corn to the sitologi (220) and keep a record of that in their books. If there was a person in arrear or subject to any

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(215) P. Leit. 13. 3rd., cent. A.D. and note 1. 14 ; BGU. 515. A.D. 193 ; Wallace, id., p. 37, 371 ; Johnson, Roman Egypt, p. 49 ; Zaki Aly, **Akt. d. VIII Intern. Kongr. f. Pap.**, p. 19.

(216) κατάκρίματα : P. Tebt. 363 ; P. Oxy. 1447. For collection of σρόσθεμα : W.O. 834 ; 839 ; 841 ; 973.

(217) Westerman and Keyes, Transportations Receipts, p. 104 ; Zaki Aly, id., p. 20.

(218) Zaki Aly, A Receipt by two Sitologi, **Aegyptus**, 1970, p. 74 sqq.

(219) P. Fuad, 233. A.D. 229, in **JJP.** IV., p. 289 sqq.

(220) In P. Oxy. 287. A.D. 23 the praktores sitikon delivered an amount of corn to the sitologi. In P. Lond. 315-Wilcken, Chr. 357. A.D. 150 the praktores sitikon delivered 69 art. of the produce of the current year, which was entered into the books by the clerk. The praktores collected the revenue of land was assigned to a village, then leased to a group of partners (P. Lond. 314-Wilcken, Chr. 356. A.D. 149).

penalty, it was the responsibility of these praktores to collect them, since the sitologi ere only responsible for collection at the granary (221). Therefore, it was reasonable to meet them also as collectors of grain revenues from metropolites (222). The participation of the praktor sitikôn in receiving and transacting the deposits seems to be of certian interest, he had to keep his books correspondant to these of the sitologi. Therefore, we are met with him participating in the payment of 300 drachmae instead of corn on account of annona, i.e. adaeratio (223).

After the corn being delivered into the granary, the sitologi or their assistants issued receipts to the payers. The cultivators ought to give receipts to the sitologi for the loans of seeds(224). The edict of Mamertinus, Prefect of Egypt, insisted on mutual receipts (225), but there is no evidence that the payee was given a receipt. The petition of Aurelia Artemis to the prefect against a dekaprotos indicates the importance of the receipt to the tax-payer (226). When a dispute about tax collection raised, a petition was presented to any official who seemed to the complainant be capable of settling his problem :

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(221) This seems clear in BGU. 515, the praktores who were respnonsible to prosecute the cultivators for the arrears.

(222) 3. 0. Leit. 13. 3-5 : πράτωρρ άμ·ἄλλοῖς σιτικων μητροπολιτικῶν λημμάτων see note 4. Also P. Oxy. 1959 about separate collection and accounting of μητρσπολιτικά and κωμητικά

(223) P. Oxy. 1419, A.D. 285. cf. introd. to P. Lond. inv. 1969. A.D. 198, in **JEA**, 52, 1966, p. 131.

(224) Vicreck, Quittungen aus den Dorfe Karanis uber Lieferung von Saatkorn, **Hermes**, XXX, p. 103 sqq.

(225) P. Fay. 21. A.D. 134. cf. Johnson, Roman Egypt, p. 583.

(226) P. Ryl. 114. A.D. 288.

to the prefect (227), or the strategus (228), or the opistrategus (229).

But when Gaius Julius Apollonius, a veteran, presented his petition to a high official, perhaps the prefect, the latter subscribed the petition saying " submit your case to the strategus, and he will do what is within his competence " (230). Thus, the actual settlement was carried out by the strategus, who was responsible before higher officials (231). If there was a need the petition was endorsed to a higher official.

The sitologi, after compiling their accounts in accordance with the receipts, had to make their reports and to present them to the strategus. The sitologi prepared their account day by day (232). The sitologi wrote in some cases extracts of accounts of special interest, since they clarify some of the oporations which took place in the granary (233). In P. Philadelphia 17 the scribe gave the global account, then classified the various items of the corn. There is an amount of corn under measure, $^3/_4$ artaba for extra payment, $^1/_8$ art. for the δείγματα At last, there are payments to various officials, and the balance of the account. The daily accounts

(227) P. Greaux 2. A.D. 55-59.

(228) P. Oxy. 1204. A.D. 299.

(229) PSI. 1100. A.D. 161. Therefore, the accounts and the reports were accompanied with copies to be sent to the general administration in addition to the copy sent to the strategus, see P. Cairo G. 29. A.D. 231-2 ; P. Fuad, 233. A.D. 229 (JJP. IV, P. 289 sqq.) ; P. Tebt. 339. A.D. 224.

(230) BGU. 180. A.D. 172. cf. E.G. Turner, Greek Papyri, p. 141 sq.

(231) PSI. 1100. A.D. 161. see BGU. 908 : a complaint against the sitologi.

(232) Daily accounts were either κατ'ἄνδρα τῶν μεμετρημένων ἡμῖν ἀπὸ μηνὸς χέως γ ἔτους (P. Oxy. 740. A.D. 200) or κατ'ἄνδρα χειριστικοῦ πυροῦ γενήματος (P. Tebt. 329. 112 B.C. ; P. Fay. 332 = SB. 5001. A.D. 174-5 ; P. Fay. 329. 2nd., cent. A.D. ; BGU. 585. A.D. 212 ; Preisigke, Girowesen, p. 181 sq.) κατ'ἄνδρα χειριστικοῦ πυροῦ μεμετρημένου καὶ διασταλμένου δι'ἐμοῦ (δεπαπρώτου) ἀπό γενήματος (P. Oxy. 1444. A.D. 248-9).

(233) e.g. P. Philadelphia 17. 2nd cent. A.D. ; P. Flor. 386. A.D. 83.

must have been of great importance, since they were the base of both the global accounts and the reports of various longer periods. It is known that officials other than the sitologi used to issue receipts (234). In order to avoid confusion, these receipts ought to be registered in the day-books (235). Sush daily accounts were either prepared by the assistants and checked by the sitologi (236), or by the sitologi themselves, and were sent to financial administration (237).

Reports were sent to the strategus by the sitologi through various periods : every month, or fifteen days, or eleven days, or five days (238). Such reports were either global ἐν κεφαλαίῳ, ἐπὶ κεφαλαίου , or detailed κατ᾽ἄνδρα (239). But the nature and timing of the report depended on certain circumstances, e.g. P. Oxy. 1443 is an account covering two months and accompanied by the account of the previous year, P. Fay. 86a covers ten days, and P. Bour. 40 is a report covering the intervals of six days (240). Therefore, it is reasonable

(234) The grammateus issued a receipt in O. Theb. 115 ; the boethos in W.O. 867 ; see Calderini, θησαυροι , p. 82-4 ; Wallace, Taxation, p. 35 sq., 371.

(235) P. Bad. II 20 is an elaborate day-book consists of copies of receipts issued by the sitologi. See also O, Kalen, 3, 4 verso ; P. Lond. II. 194, p. 124 ; P. Fay. 340 verso ; Wallace, id., p. 371.

(236) P. Mert. 77 was perhaps written by a secretary but still wanted the signature of the sitologi. See P. Lond. 900. A.D. 96.

(237) There is a subscription at the bottom of P. Lille, I, 20. 3rd., cent. B.C. by an official. P. Upps. 3. 4. v is daily record prepared by the sitologi. The practice of presenting the account book to higher officials is well attested in the agreements of substitution pertaining to tax collection. In P. Oxy. 2769. 16-7 the hired person was to present to the strategus τὰ συνήθη συναιρέματα καὶ τοὺς μηνιαίους καὶ τα ἄλλα ἐπιζητούμενα τῆς σιτολογίας See P. Lond. 306. 15-16. A.D. 145 ; BGU. 1062. A.D. 236-7 ; Johnson, Roman Egypt. p. 491.

(238) Calderini, θησαυροι. P. 7.

(239) Calderini, id., p. 7 ; Wallace, Taxation, p. 37 ; 371 ; Zaki Aly, JJP. IV, p. 289 sqq., 293 note I.

(240) cf. BGU. 905 ; 976. A.D. 173.

to say that the reports were sent when needed by the strategus (241). In Thunnell, Sitologen Pap., A.D. 146-5, there is no indication to the strategus to whom the sitologi sent the most complete and eldest example of the monthly reports (242). But the sitologi were subservants of the strategus and were required to **ὑπακοῦσαι τῷ τοῦ νομοῦ στρατήγῳ** (243) in regard of the various reports (244). In the 4th cent. A.D., the sitologi used to present to the strategus a global sworn declaration of report (245), but in a part of one of these declarations the sitologi stated that they have received the taxes from particular **κτήτορες** mentioning their individual names, so that we may consder this part as a detailed one (246). The reports of the sitologi were inclusive and of great variety. They included the accounts of taxes, rents and seeds for sowing as well as transportation (247) The report may be for all the kinds of taxes and fees or only one of them, but the summary

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(241) It is worth noting that a report covering eleven days was sent by the sitologus to the gymnasiarch concerning πρὸς τῆι εὐθηνία. of the metropolis : Stud. Pal XXII, 94. A.D. 112.

(242) cf. BGU. 1636. A.D. 156-7.

(243) P. Mich. inv. 259. 16-19. A.D. 242 ; P. Oxy. 2769. 16-22 ; P. Leit. 1.15 about the significancy of the word ὑπαποῦσαι in such agreements, which indicates the direct responsibility of the sitologi before the strategus.

(244) e.g. P. Cairo G. 7. A.D. 118-9 : μηνιαῖος τοῦ λοιπογραφομένου σίτου εἰς μεσορὴ καὶ τοῦ προσειδεδεγμένου καί ἀνηγωμένου ἀπὸ τῶν γενημάτων see Thunnell, Sitologen Pap., p. 79.

(245) P. Thead. 28. A.D. 320, see Calderini, θησαυροι P. 6 ; Zaki Aly, JJP. IV., p. 293.

(246) P. Strassb. 45. A.D. 312.

(247) P. Oxy. 1525. A.D. 216 : λόγος σίτοῦ τοῦ καὶ ἐκμεμετρημένου καὶ δια σταλμένου P. Lond. 254 (p. 226). A.D. 133-4 : λόγος ἀνηλώρματων σπερμάτων also P. Ryl. 72 verso 99-98 B.C. ; P. Fay. 339. 2nd cent. A.D. ; P. Oxy. 833. 1st cent. A.D. ; λόγος φορέτρου (P. Amh. 90 ; BGU. 802. A.D. 42 ; Thunnell, Sitologen Pap., 2 verso + recto ; see Calerini θησαυροι, p. 8).

was expected to include all the items of the collection (248). We must pay the attention to the difference between the **μηνιαῖοι the συναιρέματα** and the **τὰ τῆς τάξεως βιβλία** The **μηνιαῖος** was naturally the monthly return, while the **συναίρεμα** was the inclusive summary compiled at the end the harvest's season stating either the whole kinds (249) of grains or a particular kind of grain collected by a particular official, such as the praktor (250). The **τὰ τῆς τάξεως βιβλία** were the accoun-books in which every thing relevant to the sitologia was recorded, and were at the disposal of the authorities (251). It has been mentioned before that the sitologi sent the reports of various periods to the strategus, what, were then, the documents which formed the **βιβλία** ? It is expected that these **βιβλία** were a complete register of the archive of the granary, formed from copies of the receipts (252), and the duplicates of the reports (253). Although copies of these reports sent to the various authorities are not frequently mentioned, there is evidence that such copies were sent to the eclogistes (254), the

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(248) Stud. Pal. XXII. 182. 2nd-3rd cent. A.D. : λόγος συναιρέματος Σοκν. Νήσου.

(249) Stud. Pal 182 ; P. Meyer, 80 2nd cent. A.D. ; Calderini, id., P. 8 ; P. Leit. 13. 3rd., cent. A.D.

(250) P. Tebt. 340. A.D. 205 συναίρεμα πυροῦ μεμετρημένου ἡμῖν ἀπὸ γενήματος τοῦ διεληλυθότος ιδ ἔτους κατά μηνιαῖον μεσορὴ ὑπὸ τῶν πρακτόρων.

(251) BGU. 1062. A.D. 236-7 ; P. Oxy. 2769. 16-17 and note. The use of the word ἐπιξητοῦμενα in P. Oxy. 2769. 16 may attest that the βιβλία were presented by the sitologi on account of a request by the authorities. See P. Lond. 306.

(252) In P. Oxy. 2125. A.D. 221 the shipper gave three copies of the receipt to the sitologi, two copies to the strategus and one to the sitologi.

(253) P. Fuad, 233. A.D. 229 (JJP. IV., p. 289 sq.) is a duplicate report by the sitologi, see also P. Flor. 386. A.D. 83 ; P. Cairo G. 29. A.D. 231 ; P. Lond. inv. 1969 and its duplicate (P. Lond. inv. 1970). A.D. 198 (in JEA, 52, 1966, p. 131 sqq.).

(254) P. Amh. 69. A.D. 154.

idioslogos (255), and the epitropos of Neapolis (256). This variety in kinds of reports was a result of punctiliousness required by the Roman administration on account of the importance of the stologia and served to maintsin a watchful supervision of sitologi. The state kept for its income and expenses detailed accounts supervised with care, of which documents and precise accounts were submitted under control of the stratagus in each nome, and passing from his bureaux every month to the financial administration in Alexandria which centralized the account of the whole country (257). The great variety of receipts and reports sheds light on the Roman administration's interest of the Egyptian corn (258), but the work system of the administration of the granaries remains a problem lacking more investigation. One of the serious question that faces the investigator is the locality of both the document and the official pertaining, especially, to the sitologia (259).

The corn, after being collected, remained in the granaries until the procurator of Neapolis ordered it to be transported to the harbour on the Nile in order to be carried to Alexandria. The procurator's order stated that the grain ought to be un-

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(255) P. Ryl. 83 introd.

(256) **Archiv. F. Pap.** IV, p. 122, n. 2, see Wallace, Taxation, p. 37, 371 ; Calderini, id., p. 8, note I ; E.G. Turner, Greek Pap. p. 140.

(257) cf. N. Hohlwein, Le Stratage du Nome, p. 28 sq.

(258) cf. D.V. Berchem, L'annone militaire ; Berger, Dict. of the Roman Law, art. annano ; N. Hohlwein, Le Blé d'Egypte ; Rostovtzeff, SEHRE., p. 483 sq., 743, n. 42.

(259) In BGU. 715. A.D. 101-"2 it is difficult to know the place of each one of the sitologi, In BGU. 186. A.D. 215-7 the sitologus is met with acting in two different places. P. Oxy. 1539 contains two receipts, each receipt is originated from a different place. See P. Lond. 256 recto ; Preisigke, Girowesen, p. 77 ; Calderini, θησαυροι p. 10 sqq. In P. Lond. 256 recto A.D. 11-15 Akysilaos is met in one place. while P. Lond. 256d indicates him working in another place. See E.G. Turner. Greek Papyri, p. 42 sqq.

adultrated, free from earth and barley, untrodden in the earth in threshing, and winnowed. It had to be measured in public half artaba measure, and to this grain ought to be added the additional 1% and $\frac{1}{2}$%(260). The strategus, to whom the procurator's order was sent, issued in turn instructions to the sitologi for the beginning of the καταγωγὴ σίτου from the granary to the harbour (261). The state donkey-keepers of the village, then carried the grain from the granaries to the landing places (262). When we know that a single division in the Arsinoete nome shipped 270808 artabae in A.D. 42 (263), we may imagine how great were the troubles that faced the sitologi(264). They remained responsible until the corn was delivered safe and sound at Neapolis. If the authorities at Neapolis found that corn safe and sound, and in accordance with the samples, the procurator sent a report to the strategus (265), which was simoltaneously a release for the sitologi freeing them from their responsibility. In case the procurator found any deficiency in the cargo, the strategus was ordered to exact the deficit from the sitologi (266).

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(260) PSI. 1053. 2nd-3rd., cent. A.D.

(261) O. Oslo 17-21 ; O. Mich. Cairo 360-362 ; Amundsen. p. 40 ; Wallace, Taxation, p. 370, note 27 ; Johnson, Roman Egypt, p. 415.

(262) P. Col. I, R 4. col. i. A.D. 155 ; Westermann and Keyes, Tax receipts and Transportation receipts ; P. Col. I, R 6 ; Zaki Aly, **Akt. d. XIII Intern. Kongr. f. Pap.**, p. 20 sq.

(263) BGU. 802. A.D. 42 : it seems that such amount was stored in one of the central granaries of the division.

(264) e.g. the donkey in BGU. 802 carried $3^1/_2$ art., so a great number night have been needed to carry the corn. cf. P. Hamb. 17 where the load of the donkey was 3 artabae. See P. Amh. 90 ; Thunnell, Sitologen Pap., 2 verso + recto.

(265) P. Grenf. II 45a = Wilcken, Chr. 431. A.D. 139. About the importance of the δείγμα, see Wilcken, Chr. 432 ; Oertel, Liturgie. p. 299 sqq ; Gueraud, Sachet ayant contenu un echantilon d'orge, **Ann. du Service des Antiq.**, 33, 1933 p. 63 ; Scherer, Pap. de Philadelphia, p. 84, note 1. 18.

There is no evidence that the sitologi supervised the land transportation of the corn from the granary to the harbour. The order of the procurator of Neapolis regarding transportation was issued to all those in charge of transport and whoever concerned with this duty (267). The edict of Aemelianus Satornilus, concerned with public transportation, stated that it was the duty of the strategus, not the sitologi, to render he donkey-drivers, who were organized in corporations, to maintain at least three donkeys (268). Nomination of persons for the καταγωγή σίτου was the concern of the comogrammateus under the jurisdiction of the strategus (269). Moreover, the elders of the village, presbyteroi, supervised movement of the corn from the granary to the harbour (270). It seems that the comogrammateus, or another official of the same standling, was the official who assigned to the donkey-drivers the region from which they were to carry the corn (271). The whole procedure of the land transportation was under the superintendency of the strategus cooporating with him other officials, such as the royal scribes, who issued orders for payment and, when needed, requisitioned

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(266) P. Oxy. 708. A.D. 188 ; P. Oxy. 1447. cf. PSI. 1100. A.D. 161.

(267) PSI. 1053.2nd., cent. 3rd., cent. A.D.

(268) BGU. 15. II. A.D. 197. cf. Amh. 137 and the correction by V. Martin, L'Epistratege, p. 134, n. 2.

(269) BGU. 1022. A.D. 196 ; BGU. 242 ; P. Flor. 387 ; N. Lewis, P. Leit. 2. 2nd., cent. A.D., and note 1.2 ; P. Leit. 3. A.D. 313.

(270) C.B. Welles, Complaint from a priest of Tebtunis, **Etudes de Pap.**, VIII, p. 103 sqq. (P. Yale inv. 445. A.D. 187-190). The elders, presbyteroi, are met with collecting the ἐπισπουδασμός φορέτρων and φόρετρα πληρούχων together with other taxes in money (P. Philadelphia 22. A.D. 163-4). cf. A. Tomsin, Etudes sur les πρεσβύτεροι des villages de la χώρα egyptienne, **Bull. de l'Academic Royale de** Belgique, 1952.

(271) BGU. 60 ; BGU. 802 ; BGU. 1022 ; P. Lond. 259 ; P. Grenf. 44. See Johnson, Roman Egypt, on No. 265 ; P. Oxy. 2125. A.D. 220-221.

camels and donkeys from other nomes (272). But it seems that the sitologi were in touch with the land transportation through their subordinates. We are met with the **σιτομετροσ-ακκοφόρος** engaged in moving the grain from the granary to the transport ships (273). It has been said before that the **σιτομέτρης** was a subservant of the sitologi besides, it is well known that the sitologi were responsible for arrival of the cargo to Alexandria **ὀγίως καὶ πιστῶς**. In the agreements concerning substitution in sitologia we understand that the sitologi had to deliver the corn to the shippers and take receipts from them (274). In regard of this fact, a question raises whether the sitologi of the granaries at a distant from the harbour were delivering the corn to be shippers and take from them receipts in person or through subordinates. I have no answer to this question. The dekaprotoi, as well as the sitologi(276), might have had general oversight of shipments from the granary to the river (275), which were carried out by **δημόσια** as well as **ἴδια, κτήνη** (277).

The main functions of the sitologi in regard of moving the

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(272) W.O. 1091-1125 ; P. Upps. 2Ri ; P. Hamb. 17 ; Johnson, id., p. 404 ; R. Taubenschlag, Law, p. 680 sq.

(273) P. Kalem, p. 76 ; Wallace, Taxation, p. 37 ; Calderini, θησαυροι, p. 88 sqq. ; N. Hohlwein, Le Blé d'Egypte p. 100.

(274) P. Oxy. 2769 ; P. Mich. inv. 259.

(275) O. Mich. 64 sqq. ; 229 sqq.

(276) cf. Zaki Aly, JJP. IV. p. 303.

(277) ἴδιοι and ὀνηλάται τῆς κώμης : P. Oxy. 2778 ; P. Leipz. 86-6 P. Thead. 29 ; P. Oxy. 1425. δημόσια ὀνηλόσια τῆς πόλεως : P. Oxy. 2131. About the difficulties met the strategi in finding pash animal drivers, see BGU. 15. ii, A.D. 197. This liturgy became in the 3rd., cent. A.D. πάνυ βαρυτάτην χρείαν : P. Oxy. 2131. 12. cf. BGU. 1566. 3rd cent. A.D. Due to their serious responsibilities they ought to be εὔπορος καί ἐπιτήδιος πρὸς χρείαν : P. Oxy. 1425. 4. A.D. 318. See Oertel, Liturgie, p. 116 sqq. ; Rostovtzeff, SEHRE, p. 743, note 44.

grain to the harbour were to deliver the corn to the pack-animal drivers, take the receipts from them (278), pay the drivers' fees in kind and keep record of amounts of corn transported and fees received by them (279). It is said that the drivers took the supplement of their payment in money (280), and in this case the owners of pack-animals received this supplement through the banks (281). The relation between receipts of payments in money and the sitologi may be interpreted in this way : when a donkey-driver moved an amount of grain from the granary, the sitologi gave a receipt or a certification stating the amount of corn, the name of the granary of origin and the name of destination. The sitologi, naturally, deliver the fees in kind to the driver and mention the supplement, which is to be computed and converted into its equivalent in money. It was the duty of the transporters themselves to introduce such

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(278) O. Fay. 18b ; P. Fay. 146 ; P. Fay. 148 ; P. Lond. 295 (p. 99) ; P. Tebt. 740 ; P. Grenf. 42. See Wallace, Taxation, p. 372 ; P. Upps. 2. Ri. A.D. 157-8 : all receipts given by the drivers of pack-animals, O. Mich. 900. A.D. 296 **Etudes d. Pap.**, VIII, p. 45, is a receipt issued issued by the sitologus, see Wallace, id., P. 370.

(279) ἐπισπουδασμὸς φορετρῶν, δραγματηγίας καὶ σαππηγίας P. Upps. I Ri 16 ; Thunnell, Sitologen Pap., p. 66 ; BGU. 1936, iii. A.D. 156-7 ; P. Lond. 900. A.D. 96. διάφορον φορτρου P. Upps. 285 ; P. Fay. 86 ; BGU. 988 ; P. Philadelphia 14 ; 17 ; Kalen, Leihgabe, p. 45. ὀνηλασία : P. Bour. 42. ἐδόθησαν ὑπὲρ φορέτρου ὀνηλατων (ἀρτ ἀβαι) κρ P. Oxy. 740. λοιπὰ διαφόρου φορέτρου P. Philadelphia 17 ; Wallace, id., p. 42 sqq., 372 sq.

(280) Pauly Wissowa, Berufsvereine, suppl. IV., 16, 161 sq. ; Wallace, id., p. 42 sqq., 372 sq. Le Blé d'Egypte, p. 100 ; Kalen, Leihgabe, p. 116 suggested that half of the charge was in money.

(281) P. Col. IR 4. col. i = Select Papyri II. 372 ; PSI. 688 ; P. Flor. 379 ; P. Lond. 1165 (P. 1910) ; P. Tebt. 364 ; 615 ; 347 ; P. Flor. 7 ; φόρετρα χαλκινά : BGU. 166. Payment in copper drachmae ; PSI. 1144 ; P. Tebt. 373 ; Wallace, Taxation, p. 43, 370, note 27 ; Johnson, Roman Egypt, p. 503 sq., 517.

certificates to the bankers, who pay them their fees in money (282).

The last task of the sitologi was to deliver the public corn full, honourably and faithfully to the shippers and receive from them the usual receipts (283). These shippers were authorised by the strategus and the royal scribe, with the concurrence of these placed in charge of the embole and the other proper officials, to receive a certain amount of corn from the granaries of a particular division (284). The shippers had to deliver a complete and undamaged cargo to the administration of Neapolis (285). The sitologi, after delivering the corn to the shippers, compiled their accounts (286). On the river, the cargo was accompained by ἐπίπλους, who was a soldier and became a civilian since the 2nd cent. A.D., and his office became a liturgy (287). The sample " deigma " was also sent to Alexandria in order to serve as an evidence against any falsification of cargo (288). There was a person who carried the sample to Alexandria (289). There were special officials as-

(282) Kalen, 2 ; Frisk, Bankakten aus dem Fajum, I, B. Col. I, R4 and 5.

(283) P. Oxy. 2769. 17-22. Receipts issued by the shippers to the sitologi : P. Oxy. 2152 ; P. Lond. 256 R (p. 99) ; P. Oxy. 276.

(284) P. Giss. II = Wilcken, Chr. 444.

(285) P. Oxy. 2125. A.D. 221.

(286) BGU. 802 ; P. Upps. 2 Ri.

(287) ἐπίπλους soldier : P. Lond. II. p. 99 ; P. Oxy. 276 ; a civilian : P. Lond. II, p. 173 sq. ; Wilcken Archiv. f. Pap. 155 ; Rostevtzeff, III, p. 221. n. 3 ; P. Philadelphia, 10. 9. A.D. 139, and note 1.9 ; Oertel, Liturgie, p. 260 sq.

(288) P. Hib. 98. 252 B.C. ; P. Philadelphia 17. 2nd., cent. A.D., and note ; P. Oxy. 63. 2nd-3rd., cent. A.D. ; P. Hib. 39 ; P. Hib. 48.

(289) The δειγματοπαταγία (P. Oxy. 1254) was carried either by δειγαμτοάρτης (P. Oxy. 63. 2nd-3rd., cent. A. D.). δειγματόπαταγώγος Oertel, Liturgie, p. 261 ; Johnson, Roman Egypt, p. 416.

signed by the municipal councils whose duty was the prosecutio annonae (290), but in the 4th cent. A.D. we are met with special curatores frumenti Alexandrini, ἐπιμεληταὶ σίτου Ἀλεξανδρείας, who were responsible for the river transporit from the Nile to Alexandria (291). In case it appeared that the shipper caused any damage to the cargo, his property was siezed as a pledge (292). Since the responsibility was so dangerous, it is highly probable that they could inspect the quantity of their cargo even in the granary in order to avoid any demurrage charges (293). It may be asked if the shippers were in contact with all the sitologi. One may deduce from BGU. 802 and P. Hamb. 17 that the shippers received the cargo from the granaries of points of concentration on the harbour. Besides, P. Giss. II indicates that the shippers were assigned to carry away the corn of a large region. It could be said that the sitologi of small granaries delivered their corn into central granaries, in which the sitologi recorded the amount credited to

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(290) Rostevtzeff, SEHRE. p. 744.

(291) P. Flor. 75 = Wilcken, Chr. 433. A.D. 380 ; id., Chr. 434. A.D. 390 ; P. Lond. III, p. 220 ; Stud. Pal. I, 34 ; Wilcken, Grunaz, p. 371 ; Rostevtzeff, id., p. 744.

(292) BGU. 8 = Wilcken, Chr. 170. A.D. 260.

(293) P. Oxy. 63 ; P. Oxy. 1412 ; Keyes, JEA, XV., p. 160. The ναύκληροι were organized in corporation at least in Alexandria and were under strict control since the Ptolemaic period. The Romans inherited this practice, but in case of necessity compulsion was resorted to, and in the 3rd., cent. A.D. ναυκληρία became a liturgy, see Rostovtzeff, id., p. 744.

each sitologus (294) of the small granaries (295). In the accounts, such as BGU. 802, it is noticed that the scribe mentions the amounts delivered by the sitologi of the villages. It seems difficult to identify such a scribe, who was to take receipts from the shippers on behalf of the sitologi of the villages. We meet the ὀρχισιτολόγος, the chief sitologus, since the 3rd cent. B.C. (296). Although we do not know much of the functions of this chief sitologus, it seems reasonable that he was the chairman of the college of the sitologi of a certain division and was consequently the official who was to settle the accounts of the minor sitologi at the points of concentration (297).

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(294) Johnson, Roman Egypt, p. 508 sqq., ; BGU. 802 ; P. Hamb. 17 ; P. Col. II. 21-25 ; P. Col. IV.

(295) It seems that both the Ptolemaic and the Roman administration followed the old system of the hierarchy of the overseers of the granaries in Pharaonic Egypt. In the time of old kingdom there was " the overseer of the central granary " who was also a chief judge (R. Lepsius, Dankemaeler aus Aegypten und Aethiopien, II, P. 75, 103 sq.). There was also " the overseer of the granary of each region (= nome) (Newberry, Beni Hassan, I, p. 29 sqq.) Rig. 23 in Erman, Aegypten und Aegyptisches Leben Altertum, P. 141 indicates the the granary, Since the Middle Kingdom we are acquainted with various branches of the central granary which became to be called " the house of the accountancy of the grain " (A. Mariette, Catal. generale des Monuments d'Abydos, p. 368).

(296) SB. 6800. 3rd., cent. B.C ; P. Tebt. 979. 2nd., cent. B.C ; Jouguet, Petit supplement aux archives des Zenon in cinquaten. Ecole Prat. Hautes Etudes, p. 219-220. For Roman examples see Caldrini, θησαυροι, p. 47, 103 ; Preisigke, WB. II. s.v. the Pharaonic periods (R. Lepsius, Denkmaeler aus Aegypten und Aethiopien III, p. 76 sq.) His duty was to care for sufficiency of corn for the demands of the officials, soldiers and civil servants. He had also to supervise the superintendents of the properties of the king from Mitane to Ethiopia (R. Lepsius, id., III 77 c). When the overseer of the central granary of Amenophis, named Kha-M- Hat, declared that various officials collected sufficient revenues, he was held in great honour by the king (R. Lepsius id., 76 d.).

The time at which the office of the sitologus became liturgic has been subject of arguments (298). Ithas saïd that this office became surely liturgic in the 2nd cent. A.D. The Roman administration, perhaps, inherited the Ptolemaic practice in regard of the office of the sitologus, but, as well as in other jobs, resorted to compulsory service when there was a necessity. Therefore, we may agree that this office did not become a liturgy in 2-1 B.C. (BGU. 1200). In P. Lond. 256, II (p. 95-99). A.D. 11-15, there are various points which attract the attention ; at first, Akousilaus is described as **δημόσιος σιτολόγος** and the **δημόσιοι σιτολόγοι** are met with since A.C. 11 (299). The second point concerning P. Lond. 256 is that the one and the same sitologus remained in his office for four years. I wonder if the public sitologi held their office as an honorary one, or was it a liturgy. If they occupied their position as an nonorary one, why Akousilaus remained four years as sitologus ? If his stay in the office for four years was against the principle of the liturgies, which were yearly, there is evidence that the liturgic office was not strictly limited by one year (300). It seems that the nature

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(298) Preisigke, Girowesen, p. 46 sq. ; öertel, Liturgie, p. 252 ; Calderini, θησαυροι, p. 77 sq. ; Johnson, Roman Egypt, p. 609 sqq.

(299) Wilcken, Chr. 344. A.D. II. ; P. Lond. 256 recto. A.D. 11-15 ; Calderini, θησαυροι, p. 72 ; Oertal, Liturgie, p. 253.

(300) This was the case of the veteran Gaius Julius Apollonius (BGU. 180. A.D. 172. cf. BGU. 1022. A.D. 196). Aurelius Plutarchus was nominated as δεκάπρωτος while he was in the small Oasis for discharge of the soldiers stationed there, in accordance with the order of the prefect (P. Oxy 1204. A.D. 299). A person was nominated as comogrammateus while being sitologus (P. Strassb. 57. 2nd,. cent. A.D.). Moreover a sitologus remained in office for three years (P. Thead. 19. 4th., cent. A.D.). See for more evidence N. Lewis, Liturgia Studies, in proceed. of IX Intern. Congr, of Popyrology. Oslo 1958 (London 1961), P. 233 sqq. ; N. Lewis, P. Leit. 7. 3rd., cent. A.D. and note 11. 7-9 ; P. Leit. 8. 3rd., cent. A.D.

of the office of the sitologus required early attention by the Roman administration, which, perhaps, met difficulties in fining persons to accomplish this office of multiple functions. The emperor Tiberius, therefore, innovated the μέτοχοι of the sitologi as early as A.D. 23 σιτολόγος καὶ μέτοχοι σιτολογοῦντες (P. Oxy. 287. A.D. 23) ([301]). We have discussed before the participle σιτολογῶν with a conclusion that it indicates officials mominated for a special purpose in a short duration of time. It is clear that a change took place as early as A.D. 23 concerning the office of the sitologus. The collection, accountancy and transportation of the corn were dependant on various circumstances, such as the height of the flood ; and the financial administration was obliged to rush the collection and transport of the corn. Therefore, it had in many cases to impose compulsory service on persons, as is expected in BGU. 802. A.D. 42. The office of the sitologus, perhaps, was frequently subject to compulsion or liturgic in the early 1st cent. A.D. It seems that changes by Septimius Severus affected this office. In the 3rd cent. A.D. ([302]) it became, like the other liturgies(a heavy burden ([303]), so that the government was obliged to nominate illiterates " agrammatoi " in an

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(301) Preisigke, Girowesen, p. 47 ; Calderini, id., p. 76, note 2. The first cent. A.D. bears good evidence concerning the collegia of sitologi μέτοχοι : P. Oxy. 384. A.D. 25 ; P. Oxy 383. A.D. 27 ; BGU. 802. A.D. 42 ; P. Oxy, 1447. A.D. 44 ; P. Oxy 1145. 1st., cent. A.D. ; Oxy. 1276. 77 ; P. Lond. 290 II (P. 89). A.D. 85, etc.

(302) cf. Wallace, Taxation, p. 23 ; PSI. 683. A.D. 199 ; Calderini, θησαυροι, p. 77 sq. ; öertal, Liturgie, p. 252.

(303) A. Kranzlein, P. Vindob. inv. 25824 ; P. Amh. 65, in JJP. VI, 1952. P. 195-237 : two brothers were nominated as sitologi and they presented a petition that one is to be released in order to care for the fields. Aurelius Isidorus tried to escape his nomination as sitologus (Archive of Aurelius Isidorus, No. 68, published by A.E.R. Boak and H.C. Youtie).

office which accomplished functions depended mainly on accountancy (304).

The sitologi were nominated by the grammateus poleos, in case of the metropolites (305), by the amphodogrammateus, when this latter office was introduced (306), and by the comarchi or the comogrammateus, in case of the villagers (307). It was natural to find that the head of each administrative region was responsible for the nomination of the persons under his competence, this administrative official will be sharing the sitologus the responsibility in the collection of the revenues(308).

The duration of the office of the sitologus, as a liturgy, was one year (309), but no strict limitations for the period of the ἀνάπαυσις were followed in regard of the office of the sitilogus. A sitologus is met executing four sitologïas (P. Lond. 256. A.D. 11-15), another three sitologïas (P. Thead. 19.

(304) E. Majer-Leonard, Ἀγράμματοι, R. Calderini, Aegyptus, XXX, 1950, p. 14 sqq. ; Calderini, θησαυροι, p. 81. cf. H.C. Youtie, Chron. d'Egypte, XLI, 1966, p. 127-143 ; E.G. Turner, Greek Papyri, p. 82 sq.

(305) P. Jouguet, La Vie Municipale, p. 223. cf. BGU. 18. A.D. 169.

(306) P. Oxy. 2769. 4. A.D. 242 ; P. Mertens La Service de l'état Civil., p. 9 sqq. ; cf. P. Lond. 955. 6-7. A.D. 261.

(307) P. Leit, 3. A.D. 313 ; P. Ryl. 90. 3rd cent. A.D. ; P. Flor. I ; Zaki Aly, JJP IV., p. 298. For rominations by the comogrammateus, see P. Jouguet, id., p. 223.

(308) cf. P. Oxy. 708 about the role of the strategus in case of a deficit in the collection. See P. Tebt. 89. 113. B.C. about the participation of the comogrammateus in the collection of the corn with the sitologi. The same practice was prevailing in Pharaonic Egypt ; the cheifs of the villages were responsible before the governer of the region (= nome) when the taxpayars delayed in delivering their taxes. About the hierarchy of the overseers of the granaries in Pharaonic Egypt, see A. Mariette, Cat. gen. des Monuments d'Abydos, p. 691 ; A. Erman and H. Ranke, Aegypten und Aegyptisches Leben Altertum, ch. V.

(309) N. Lewis Leiturgia Studies, Proceed. of the IX Intern. Congr. of Pap., Oslo, 1958 (London 1961) ; P. Leit. 7 introd. and note 11. 7-9 ; P. Leit. 8 introd. ; P. Leit. 9.

4th cent. A.D.), other persons were nominated for a short period, as in the case of Aurelius Harpalus Sarapion who acted as sitologus from 7 Nov. A.D. 216 till January-February A.D. 217 (310). Calderini gave examples of persons who had one and the same name acting as sitologi for a period reaches twenty years (311). It is difficult to accept that one and the same person acted as sitologus for such a long period, but the system of hierarchy of the sitologi might have played a role in prolonging the period occupied by the person as sitologus(312). The progression in the various ranks of sitologus may durate a long period. There is no evidence that private individuals voluntarily accepted to act as sitologi for so long periods. But it seems that this office, troublesome that was, was not without temptation, especially in the first two centuries A.D. The sitologi, probably, have got profit from working as private bankers. For example, Paseis had to give a receipt for three artabae, although he received only two (313). There is no evidence that the sitologi received charges, but the $12^1/_2\%$ in P. Lond. 1215. A.D. 65 may represent the profit of the sitologus. The **φιλάνθρωπον** (314) and the **ἑκατοσταί** (315) are attested as gratifications to the sitologi. There are other

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(310) Calderini, θησαυροι. p. 77 sq. ; Oertel, Liturgie, p. 253 sq.

(311) Calderini, id., p. 78-79.

(312) cf. öertel, id., p. 252 ; Preisigke, Girowesen, p. 49 sqq.

(313) P. Strassb. 71, 2nd., cent. A.D.

(314) BGU. 64 ; BGU. 534 ; BGU. 835. The φιλάνθρωπον was also given to the village secretary (P. Oxy. 1445). This attests its nature as bakshish or charity, see N. Hohlwein, Le Blé d'Egypte, p. 85. The φιλάνθρωπον was given by cultivators of private lands.

(315) P. Tebt. 520 ; P. Hamb. 64. The ἑκατοσταί are said to be paid by the cultivators of public lands, see Zaki Aly, **JJP.** IV. p. 298 ; Johnson, Roman Egypt, p. 511. But it may appear from P. Oxy. 708 that the Roman administration added the ἑκατοσταί to the rent as a part of the προσμετρούμενσ see Wallace, p. 42 sq. ; 45 ; Kalen, Leihgabe, 299 ; N. Hohlwein, id., p. 83.

fees, the σιτολογικόν ([316]) and σιτομετρικόν, which may have been their perquisite ([317]). If the Roman administration allowed such advantages to be obtained by the sitologi, it becomes not impossible to meet a person acting as sitologus for a long period, though this does not seem to be case in the 3rd cent. A.D.

The sitologi began to be scarcely met with since the end of the first half of the 3rd cent. A.D. The date A.D. 236-7 had been considered as the last mention of these officials(PSI. 1121)([318]) The papyri supplied us with references to the sitologi after that date, of which the very interesting is the reference to Aurelius Isidorus acting as sitologus in A.D. 296 ([319]). So the period from A.D. 236-7 till A.D. 303, in which it has been suggested that the sitologi disappeared, has been interrupted by these references.

It has been argued that the dekaprotoi were identical to the sitologi ([320]). It is not my intention to discuss the status designatus of the dekaprotoi, but to look through some aspects of their activities to see if they were, or not, identical to the sitologi. The dekaprotoi were responsible for the collection of the regular taxes, but in a sense different from the role of the

(316) P. Oxy. 740. 2nd-3rd., cent. A.D.

(317) P. Hib. 110. 3rd. cent. B.C. ; P. Oxy. 740. 23 ; Wallace, Taxation, p. 42 ; Johnson, Roman Egypt, p. 513.

(318) E.C. Turner, Dekaprotoi, **JEA**, XXII, 1936, p. 8 sq. ; Schwartz, Le Nil et la ravitaillemant de Rome, **BIFAO**, 1948, p. 192 ; Zaki Aly, **JJP**. IV. p. 306 ; Calderini, θησαυροι p. 77.

(319) P. Oxy. 2769. A.D. 242 ; a receipt by sitologus (P. Oxy. Box 3 B 4 layer Y. of A.D. 242, unpublished. I thank Prof. E.G. Turner who has kindly gave me access of a photo. I have transcribed it but not yet finished the textual criticism) ; A.E.R. Boak and H.C. Youtie, The Archive of Aurelius Isidorus, Michigan 1960, No. 9 and No. 68 ; O. Mich. 900. A.D. 296. See H.I. Bell, JEA, 47, 171-2 ; A.E.R. Boak, Karanis and the Revolt of Domitius Domitianus, **Etudes de Pap.** VIII, 1957, P. 45 sqq.

(320) Zaki Aly, **JJP**. IV. p. 306.

sitologi ([321]). In P. Oxy. 62 (= Wilcken, Chr. 278. A.D. 66) the heirs of a dekaprotus were ordered to be arrested since their father had been responsible for the payments of an imperial estate and whose default was threatening the success of the ἐμβολή, that is the shipment of the corn to Alexandria or to the troops of occupation in Egypt ([322]). The dekaprotoi, as it seems, were responsible for the land transportation of the taxes in kind and the annona to the landing-places on the Nile and to Alexandria in the 3rd cent. A.D. ([323]) P. Leit. 16. A.D. 254-7 sheds light on other activities of the dekaprotoi : three brothers presented a petition to the dekaprotoi that they had been assessed in the tax ragister with excessive amounts of land and requested an official inspection and accurate measurement on the land parcels in question, so as to avoid any claim on them for taxes on the excess arrears ([324]). A certain Aurelius Apollonius wanted to purchase state land and presented a petition to the catholicus and the imperial procurator, who endorsed his potition to the dekaprotoi in order to deliver the land to him ([325]). The dekaprotoi were also responsible, with the strategus, for the consolidation of the dykes and the cleansing of the canals ([326]). Heraclius has been made by the dekaprotoi responsible for some land which did not belong to him, he proposed cassio bonorum because he feared imprisonment and corporal punishment([327]). If P. Oxy.

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(321) Johnson, Roman Egypt, p. 404 ; Rostevtzeff, SEHRE, p. 390.

(322) Rostovtzeff, SEHRE, p. 485 ; 743, note 44.

(323) Rostovtzeff, id., p. 485.

(324) N. Lewis, introd. to P. Leit. 16.

(325) P. Lond. 1157. A.D. 246.

(326) P. Oxy. 1409. A.D. 278, this attests PSI. 249. A.D. 218 that the dekaprotoi were of the same standing of the strategus, see N. Lewis, P. Leit, 16 introd. In P. Lond. 1157 one of the dekaprotoi is specified to be ἀπαιτητῆ διαδεχομένῳ καὶ τὴν στρατηγίαν

(327) PSI. 802. A.D. 280.

2789. 3rd cent. A.D. pertains to a public payment, it could be said that the dekaprotoi were responsible for payment of debts or arrears ([328]), they could send a person to prison([329]).

It could be said, therefore, that the dekaprotoi supervised various municipal affairs. It may be true that all their works pertained to the revenues, but we have no evidence that the dekaprotoi worked within the very same competence of the sitologi as directors of the granaries ([370]). At last, there are two points that may show clearly the difference between the sitologi and the dekaprotoi, first the dekaprotus, as municipal senator, could nominate another person for the liturgy of decemprimate in the 3rd cent. A.D. ([331]). There is no evidence that the sitologus was capable to do the same. Second, the sitologus, as local official, could hire or delegate another person to act for him as sitologus ([332]). We have no example that the dekaprotoi hired another person to act them and carry out their duties.

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(328) Confiscated land which was assigned to the city was called τὰ ὑποστ-
ἐλλοντα τῇ δεκαπρωτείᾳ τὰ ὑπάρχοντα τῇ δεκαπρωτεία the dekaprotoi were responsible for the revenues of such land ; PSI. 187 ; P. Flor. 19.

(329) On the activity of the dekaprotoi and their violence : O. Ryl. 114. A.D. 280 ; PSI. 807. A.D. 280.

(330) About the dekaprotoi in the Roman world, see Rostovtzeff, SEHRE, p. 706-7, 715.

(331) P. Oxy. 1204. A.D. 299.

(332) P. Oxy. 2769. A.D. 242 ; P. Mich. inv. 259. A.D. 223. In a recently published papyrus (Zaki Aly, Aegyptus, 1970, p. 78 sq.) Zoilos, the sitologus, is acting through his brother Heraclides.