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APPRENTICE CONTRACTS AND THE APPRENTICE SYSTEM IN ROMAN EGYPT

BY W. L. WESTERMANN

The methods and system of training craftsmen in the ancient world is a subject which has received little notice in the ancient literature which has come down to us. Consequently the attention of those who have studied Greek and Roman educational theory and methods has been turned to the *studia liberalia* and the education of the classes which were destined by birth or good fortune for the higher places in the intellectual and political life of the time. About the training of the great mass of the population, those occupied in the fundamental ambition of earning their daily bread by their manual skill, we have known next to nothing. The papyri, however, have given us an opportunity of reconstructing, to a small degree, this feature of ancient life. The new evidence is largely in the form of apprentice contracts from the period of the Roman occupation of Egypt. Small though their number is, they present the subject in some detail and certainly are worthy of intensive study and a connected presentation.

The apprentice contracts in the published volumes of Greek papyri have already been discussed in several places, but so far, chiefly from the standpoint of their legal form and legal significance.¹ Something has already been done to clear up the confusion between the contracts of apprenticeship and the particular form of labor contract in which the labor of free boys or slaves is bonded out to take the place of interest upon a debt.² Wilcken has collected the extant examples of apprentice contracts, making a distinction between pure "apprentice contracts" and "teaching contracts," in *Papyruskunde*, I, 1, p. 126. On the basis of this list the following table was compiled for purposes of reference in the course of the study.

¹ Ulrich Wilcken in Mitteis-Wilcken, *Grundzüge und Chrestomathie der Papyruskunde* (1912), I, 1, p. 261; A. Berger, *Die Strafklauseln in den Papyrusurkunden* (1911), pp. 166 ff.; H. Lewald, *Zur Personalexekution im Recht der Papyri* (1910), pp. 18-19.

² Lewald, *Zur Personalexekution*, pp. 18-19; Berger, *Strafklauseln*, pp. 171 ff.

	Date	Master workman διδάσκαλος*	Apprentice μαθητής†	Contracting Party	Term of Service
<i>B.G.U.</i> , IV, 1124.	18 B.C.	Nail smith	A minor, son of Heraclides	Heraclides	Not given
<i>B.G.U.</i> , IV, 1125.	13 B.C.	Flute play- er	Narcissus, a slave	Gaius Julius—, his master	6 months
<i>P. Oxy.</i> , II, 275.	66 A.D.	Weaver	A minor, son of Tryphon	Tryphon, weav- er	1 year
<i>P. Teb.</i> , II, 385.	117 A.D.	Weaver	Son of Thepher- sais	Thephersais, a woman	2 years
<i>P. Oxy.</i> , IV, 724.	155 A.D.	Shorthand writer	Slave of Pane- chotes	Panechotes	2 years
<i>P. Oxy.</i> , IV, 725.	183 A.D.	Weaver	A minor, ward‡ of Ischyrior	Ischyrior	5 years
<i>B.G.U.</i> , IV, 1021.	3d cent.	Hairdresser	Slave of Sentius	Sentius	3 years
Wessely, <i>Kar- anis</i> , p. 32	?	Weaver	Female slave of Segathis	Segathis, a woman	?

* See *P. Oxy.*, IV, 725, lines 10, 14; *B.G.U.*, 1021, line 12.

† See *P. Oxy.*, IV, 725, lines 15, 21; *P. Oxy.*, VII, 1029, line 25.

‡ The papyrus is mutilated so that the relation of the apprentice and Ischyrior is somewhat doubtful. Ischyrior is at least the legal agent for the boy.

To Wilcken's list must be added:¹

<i>P. Oxy.</i> , II, 322, de- scriptions.	36 A.D.	Weaver	Son of Tha- mounion	Thamounion, a woman	2 years
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I have omitted from the list given by Wilcken *P. Grenf.*, II, 59, which is "a contract for the hire of a slave" already adept at weaving, ἀθλητὴν γερδιακὴν τέχνην, and was so classified by the editor, Grenfell.² Following Wilcken's warning,³ I have not included *P. Teb.*, II, 384, a contract in which a boy is bound out for a year to a weaver by his two older brothers. The labor of the boy takes the place of the interest upon a loan made by the weaver. There is no statement of any obligation upon the weaver to instruct the boy in his trade.

The following fragment of the third century B.C. (*P. Hib.*, 148, descriptions) is regarded by the editors as a portion of an apprentice contract and adopted as such by Berger:⁴ ἐὰν δέ τι κλέπτων μενος ἀλίσκεται προσαποτεισάτω τὸ βλάβος διπλοῦν, μὴ ἐξουσία δ' ἔστω

¹ Berger, *Strafklauseln*, p. 169, n. 2.

² Excluded from the list of apprentice contracts by Berger, *Strafklauseln*, p. 171, n. 2.

³ *Archiv für Papyrusforschung*, V, p. 241.

⁴ Berger, *Strafklauseln*, p. 167.

Πόρωι μήτε ἀποκοιτεῖν μήτε ἀφημερεύειν ἄνευ τῆς Ἐπιμέρους γνώμης, εἰ δὲ μὴ ἀποτεισάτω τῆς μὲν ἡμέρας τριώβολον, τῆς δὲ νυκτὸς, ἐξουσία δ' ἔστω Ἐπιμένει ἐὰμ μὴ ἀρεσκ. . . . There is nothing in the fragment as preserved which indicates that the learning of a trade was involved. There is no other example of an apprentice contract which has a fine imposed in case of theft. The apprentices do not sleep at the house of the master workman, as will be proven. In the apprentice contracts, when a fine is imposed for absence, it is one drachma for each day of absence.¹ The fragment seems to be part of a labor contract dealing with a slave. It certainly should not be included in the list of apprentice contracts.

To the number of the known τέχναι in which the training was obtained through the apprentice system the carvers of hieroglyphs must be added. In *P. Oxy.*, VII, 1029 the hieroglyph carvers of Oxyrhynchus make a report of their number to the basilicogrammateus. They state that the five names given complete the list and that they have no apprentices or aliens following the trade: καὶ πλείω τούτων μὴ εἶναι μηδὲ ἔχειν μαθητὰς ἢ ἐπιξένους χρωμένους τῇ τέχνῃ εἰς τὴν ἐνεστῶσαν ἡμέραν.

CLASSIFICATION AND ANALYSIS OF THE FORM OF THE APPRENTICE CONTRACTS

Berger (*Die Strafklauseln in den Papyrusurkunden*, pp. 168-69) has keenly analyzed the legal character of the transaction involved in the apprentice contracts. He adopts the distinction proposed by Wilcken between "Lehrlingsverträge" and "Lehrverträge," apprentice contracts and teaching contracts. In the former type of contract the master workman receives no pay for instructing the apprentice. On the contrary, he even takes upon himself certain obligations with reference to the apprentice. In these contracts the labor of the apprentice is the legal consideration, and the transaction is classified as a *locatio-conductio rei* under the Roman law. The natural or artificial guardian, or, in the case of a slave, the owner is the *locator*. Under this classification fall the contracts *B.G.U.*, IV, 1124; *P. Oxy.*, II, 275; *P. Teb.*, II, 385; *P. Oxy.*, IV, 725; *B.G.U.*, IV, 1021; Wessely, *Karanis*, p. 32; *P. Oxy.*, II, 322. In the teaching contracts

¹ *P. Teb.*, II, 385, lines 25-26; *P. Oxy.*, II, 275, lines 27-28.

the talent of the master workman is the legal consideration. For imparting his skill he receives pay, and the transaction is a *locatio-conductio operarum*. Of this type we have two contracts, *B.G.U.*, IV, 1125 and *P. Oxy.*, IV, 724.

Although we have too few contracts of apprenticeship to warrant conclusive deductions, the distinction made by Wilcken and Berger between teaching contracts and apprentice contracts is curiously paralleled in the contract forms. The two "teaching contracts" are Cheirographa, whereas the pure apprentice contracts are of the general type called Homologiai. The Cheirographon is like our letter-contract which becomes binding on both the parties to the contract, the writer of the letter and the addressee, as soon as acceptance of the terms of the letter is mailed or telegraphed by the addressee. At the time of writing, the Cheirographon, like the letter in our own case, is an *offer to contract* and becomes a binding contract only when accepted.¹ One is sorely tempted to draw deductions from the difference between the Cheirographa which correspond to the "teaching contracts" of Wilcken and Berger, and the Homologiai, the form in which the pure "apprentice contracts" appear. This is all the more tempting because the training contracted for in the two Cheirographa is in flute playing and shorthand writing, while all the Homologiai are concerned with what we are accustomed to regard as the minor trades, weaving, hairdressing, and nail making. I doubt, however, that any social distinctions can safely be deduced from this difference in the contract forms between the standing of the weaver and that of the shorthand writer. The difference in form may or may not persist in other documents. If it should prove, with the discovery of new documents, to be a regular distinction, the origin of the difference in the contract type might be explained in many ways, as, for example, by the illiteracy of the handicraftsmen. It is a noticeable fact that the weavers, in the apprentice contracts of which the *ὑπογραφαί* are preserved, all appear as analphabets. The words "höhere Studien, studia liberalia," employed by Berger in discussing the Cheirographon by which the slave, Narcissus, is apprenticed to a music teacher, are misleading.² This is a mere slave who is being

¹ For a discussion of the various contract types see Mitteis, *Papyruskunde*, II, 1, pp. 52-76.

² Berger, *Strafklauseln*, p. 170.

trained in a *τέχνη*, evidently for the purpose of earning money for his master by his skill in flute playing. The only real distinction which I can find between the so-called "teaching contracts" and the "apprentice contracts" lies in one fact. That fact is purely an economic one. The apprentice of the flute player and the shorthand writer is in no way useful to his teacher¹ until he has acquired such skill in the *τέχνη* that he can earn money as an independent *τεχνίτης* for his master, natural or artificial guardian, as the case may be. For this reason the teacher, or master workman, receives pay for his instruction. With the apprentice of the weaver, hairdresser, or nail maker the case is different. From the outset the apprentice is economically useful about the shop. Therefore the master workman is willing to pay for the food and clothing of the apprentice from the beginning of his apprenticeship, with the addition of wages which may increase as the skill of the apprentice increases, as in *P. Oxy.*, IV, 725.

In the Homologia type of our apprentice contracts, which is the form followed in the extant examples for cases of apprenticeship in the minor trades, the mutual obligations of the two parties to the contract are clearly formulated. The master workman's promise to teach as a *quid pro quo* in return for the apprentice's labor is stated in the Hypographe, or legal acknowledgment, of the contract. In *P. Oxy.*, II, 275 it is also clearly formulated in the statement of the legal penalty for breach of contract, which occurs in the body of the contract (lines 31-34): *ἐὰν δὲ καὶ αὐτὸς ὁ Πτολεμαῖος* [the weaver] *μὴ ἐγδιδάξῃ τὸν παῖδα ἔνοχος ἔστω τοῖς ὕλοις ἐπιτείμοις*. The Hypographe is written for the weaver, who is analphabet: *Πτολεμαῖος . . . ἕκαστα ποιήσω ἐν τῷ ἐνιαυτῷ ἐνί*. In *P. Oxy.*, IV, 725 this obligation is again definitely expressed in the body of the contract (lines 47-50): *ὁ δὲ Ἡρακλᾶς* [the weaver] *εὐδοκῶν τουτοῖς πᾶσι καὶ ἐκδιδάξειν τὸν μαθητὴν τὴν δηλουμένην τέχνην*. It is again formulated in general terms in the Hypographe, which is written by someone else for the illiterate weaver: *Ἡρακλᾶς τέθειμαι τὸ ὁμολόγημα καὶ εὐδοκῶ πᾶσι τοῖς προκειμένοις*. *P. Teb.*, II, 385 varies from the two contracts cited above, in that the bilateral character of the contract comes to fuller expression, because both parties sign at the end in

¹ Berger, *Strafklauseln*, p. 170: "hier handelt es sich nicht um Fertigkeiten, die der Meister während der Lehrzeit für sich ausnützen kann."

the legal acknowledgment or Hypographe. The mutual obligations—teaching on the part of the weaver and the apprentice labor to be furnished by the boy's mother—are emphasized: "Ἡρων Ὀρσέως ἐκδιδάξω τὸν παῖδα (line 27), and Τεφερσάεις . . . ἐκδέδομε τὸν υιόν μου (lines 30–31).

The one variant from the Homologia form in the contracts for training in the minor trades is *B.G.U.*, 1124. It is a memorial (Hypomnema) addressed to a magistrate named Achaeus, annulling an agreement of debt (συγχώρησις δανείου), which had been registered before Achaeus, who is in charge of the court in the Aule.¹ The steps in this case were as follows:

Nilus, a nail smith (ἡλοκόπος), had loaned to Heraclides and Taurinus, in Pachon of the twelfth year of Augustus, 100 drachmas. In the Synchorexis Daneiou Nilus had agreed to teach Hermaiscus, a minor, son of Heraclides, the ἡλοκοπικὴ τέχνη. In Epiph of the same year the nail smith has made a second loan of 700 drachmas to Taurinus alone, for which there existed a separate Synchorexis Daneiou. Before the end of the year 12 Nilus received payment of the first loan of 100 drachmas. Our document is the Hypomnema which records the cancellation of this debt. With the payment of this debt the obligation of the boy Hermaiscus to serve as apprentice to Nilus ceases (lines 19–22): ἐξῆναι δὲ τῷ Ἡρακλείδῃ καὶ ἐγδιδόσθαι τὸν ἑαυτοῦ υἱὸν Ἑρμαῖσκον ἐπὶ τὸ μαθάνειν τὴν ἡλοκοπικὴν τέχνην ἐτέρῳ. It is evident that the apprenticeship was arranged for in the first Synchorexis Daneiou and that the apprentice labor was regarded as equivalent to the interest upon the 100 drachmas plus the trouble which Nilus might take in teaching him the trade. The teaching clause alone distinguishes this Synchorexis Daneiou from the so-called παραμονή contracts² (*P. Flor.*, 44; *B.G.U.*, 1153²; *B.G.U.*, 1154), in which the service of boys is bonded out in lieu of the interest upon loans. The Hypomnema under discussion (*B.G.U.*, 1124) closes with a clear provision that the present document in no way affects the validity of the second agreement of debt upon the loan of 700 drachmas, which the nail smith made to Taurinus alone.

¹ *B.G.U.*, 1124, n. 1.

² Berger, *Strafklauseln*, p. 171 and n. 2; Wilcken, *Papyruskunde*, I, 1, p. 261 Lewald, *Zur Personalezekution*, pp. 13 ff.

The general form of the Homologiai of the apprentice contracts remains the same throughout the first three centuries after Christ, as is shown by a comparison of *P. Oxy.*, II, 275, *P. Oxy.*, IV, 725, and *B. G. U.*, IV, 1021:

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| <i>P. Oxy.</i> , II, 275, lines 1-6. | Preamble . ὁμολογοῦσιν ἀλλήλοις ὁ δαίνα. |
| <i>P. Oxy.</i> , IV, 725, lines 1-5. | καὶ ὁ δαίνα γέρδιος (κτενιστής in <i>B. G. U.</i> , 1021). |
| <i>B. G. U.</i> , IV, 1021, lines 1-5. | |
| <i>P. Oxy.</i> , II, 275, lines 6-14. | ὁ μὲν Τρύφων ἐγδεδόσθαι τὸν ἑαυτοῦ υἱὸν,
length of apprentice service, obligations
of apprentice. |
| <i>P. Oxy.</i> , IV, 725, lines 6-15. | ὁ μὲν Ἰσχυρίων ἐγδεδόσθαι τὸν . . . Θῶνιν
ἀφήλικα, length of apprentice service, ob-
ligations of apprentice. |
| <i>B. G. U.</i> , IV, 1021, lines 6-14. | ὁ μὲν Σέντιος ἐγδεδόσθαι ὃν ἔχει δοῦλον,
length of service. |
| <i>P. Oxy.</i> , II, 275, lines 14-21. | Stipulations for food, clothing, and taxes
of apprentice. |
| <i>P. Oxy.</i> , IV, 725, lines 15-35. | Stipulations for apprentice's food, wages,
and clothing. |
| <i>B. G. U.</i> , IV, 1021, lines 14-15. | Stipulations for apprentice's food and cloth-
ing. |
| <i>P. Oxy.</i> , II, 275, lines 22-28. | Obligation of Tryphon to furnish apprentice's
labor throughout the period, with arrange-
ment for making up absences. |
| <i>P. Oxy.</i> , IV, 725, lines 36-46. | Stipulation for holidays, and for making up
other absences without expense to the
weaver. |
| <i>B. G. U.</i> , IV, 1021, lines 15-17. | Obligation of apprentice to obey the master
workman. |
| <i>P. Oxy.</i> , II, 275, lines 28-33. | Fines imposed for breach of contract, upon
Tryphon for withdrawing the apprentice,
upon the weaver for failure to teach trade. |
| <i>P. Oxy.</i> , IV, 725, lines 47-56. | Obligation upon the weaver to teach; fines
imposed upon both parties for breach of
contract. |
| <i>B. G. U.</i> , IV, 1021. | Lost. Papyrus breaks off at line 17. |
| <i>P. Oxy.</i> , II, 275, lines 33-36. | Statement of validity of contract; date. |
| <i>P. Oxy.</i> , IV, 725, lines 56-60. | Statement of validity of contract; date. |
| <i>P. Oxy.</i> , II, 275, lines 37-47. | Hypographe written for the weaver; repeti-
tion of date. |
| <i>P. Oxy.</i> , IV, 725, lines 61-64. | Hypographe written for the weaver. |
| <i>P. Oxy.</i> , II, 322 (descriptions), | written in 36 A.D., follows the formula of
<i>P. Oxy.</i> , II, 275 (editors). |

In their general classification these documents are *Syngraphai*,¹ though I have preferred the equivalent term *Homologiai* because of *P. Oxy.*, IV, 725, *κύριον τὸ ὁμολόγημα*. The similarity of form in the contracts covering three centuries leaves little doubt that they constitute a well-known and distinct type dealing with a definite legal relationship very frequently entered into. In *P. Oxy.*, II, 275, lines 33–34, the statement of validity is given in these words: *κυρία ἡ διδασκαλική*. On the basis of this Berger² and Wilcken³ have differentiated the contract type as *ἡ διδασκαλική* (supply *συγγραφή* or *ὁμολογία*).

P. Teb., II, 385 is a *Homologia*, but of a type formally somewhat different. It is the form discussed by Mitteis in *Papyruskunde*, II, 1, p. 74, in which the legal *action* of the two parties concerned is emphasized in the wording: (lines 3–4), *ἔξέδοτο Τεφερσαίεις*, and (line 23), *παρέξεται ὁ Ἥρων τὸν παῖδα*. Otherwise, in the general structure and sequence of ideas, it follows very closely the *Homologiai* discussed above:

- Lines 1–3. Preamble. Date and place.
- Lines 3–12. *ἔξέδοτο Τεφερσαίεις . . . τὸν ἑαυτῆς παῖδα*. Official description of the woman and her legal representative (*κύριος*), official description of the weaver, statement of apprenticeship and length of apprentice service.
- Lines 12–22. Stipulations as to food and clothing of apprentice, taxes upon him, and wages to be paid to Tephersaeis.
- Lines 22–26. Obligation of weaver to teach apprentice, stipulation for his presence during entire term, payment of fine for each day's absence.
- Lines 27–29. Hypographe written for the weaver.
- Lines 30–31. Hypographe of Tephersaeis (4 lines lacking).⁴

¹ The writer has followed the explanation and classification of the contract types offered by Mitteis in Mitteis-Wilcken, *Papyruskunde*, II, 1, pp. 53 ff.

² Berger, *Strafklauseln*, p. 168.

³ Wilcken, *Papyruskunde*, I, 1, p. 261.

⁴ The double Hypographe illustrates clearly the remark of Mitteis (*Papyruskunde*, II, 1, p. 74), in regard to this type of *Homologia*: "die Zweiseitigkeit tritt also hier scharf hervor."

I have made a rough estimate of the illiteracy among women in the first three centuries, based upon the autograph signatures or statements of illiteracy in the contracts and other documents which require signature. It covers 27 documents taken from a survey of the *Oxyrhynchus Papyri*, *P. Teb.*, *P. Hib.*, *P. Ham.*, *P. Gen.*, *P. Grenf.*, *P. Strass.* The number of analphabet women is 21, the literates 11 including two as literate who can only print their names in majuscule (*P. Ham.*, 15). This

The contracts of loan with a *παραμονή* clause¹ differ in their industrial effects but little from the apprentice contracts when the debt is owing to any handicraftsman. In the regular contracts of apprenticeship the contracting party who agrees to furnish the apprentice, be it son or slave or ward, to the master workman, is legally bound to furnish his labor throughout the period agreed upon, and is subject to fine for non-fulfilment. In case the apprentice exceeds the allotted holidays granted him, whether for good cause or not, these days are to be made up after the fixed term of apprenticeship is past: *P. Oxy.*, IV, 725, lines 39–46: *ἐὰν δὲ πλείονας τούτων ἀργήσῃ ἢ ἀσθενήσῃ ἢ ἀτακτήσῃ ἢ δι' ἄλλην τινα αἰτίαν ἡμέρας ἐπὶ τὰς ἕσας ἐπάναγκες παρέξει αὐτὸν ὁ Ἰσχυρίων τῷ διδασκάλῳ ἡμέρας παραμένοντα καὶ ποιούντα πάντα καθὼς πρόκειται χωρὶς μισθοῦ, τρεφόμενον ὑπὸ τοῦ αὐτοῦ Ἰσχυρίωνος*; cf. *P. Oxy.*, IV, 724: *παραμενεῖ δέ σοι μετὰ τὸν χρόνον ὅσας ἐὰν ἀργήσῃ ἡμέρας ἢ μῆνας*; cf. also *B.G.U.*, 1125²: *καὶ ἂς δὲ ἐὰν ἀρτακτήσῃ ἢ ἀρρωστήσῃ, ἀντιπαρέξω σοι αὐτὸν παραμένοντα μετὰ τὸν χρόνον*. For the days added after the period of apprenticeship in lieu of time missed by the boy, the relation between master workman and apprentice either becomes that of the *παραμονή* contracts, or a conventional fine of one drachma a day is imposed. In *P. Oxy.*, II, 275, lines 24–28, either of these two methods of recompense is permissible: *ὅσας δ' ἐὰν ἐν τούτῳ ἀτακτήσῃ ἡμέρας ἐπὶ τὰς ἕσας αὐτὸν παρέξεται μετὰ τὸν χρόνον ἢ ἀποτείσάτω ἐκάστης ἡμέρας ἀργυρίου δραχμὴν μίαν*. From *P. Teb.*, II, 385, although the corresponding lines are somewhat broken, it is apparent that only the conventional fine of one drachma a day is provided for the days missed by the apprentice. By the statement that the difference between the contracts of loan with a *παραμονή* clause and the apprentice contracts is not a social or industrial one, I mean that the slave or free child

is termed *βραδέως γράφειν* in the papyri (*P. Strass.*, 19, lines 19–20, and p. 65). For these three centuries the ratio of women who could write is approximately 35 per cent, of analphabets 65 per cent. The weavers who occur in these apprentice contracts are all analphabets and I doubt not that Tephersaeis, who is of the same social class, is equally illiterate. I would, therefore, suggest the following restoration for line 31 and the following: *ἐκδ[έ]δ[ο]με τὸν νεῖ[δ]ν[ον] μου. [ἔγραψεν ὑπὲρ αὐτῆς δείνα δείνου γράμματα μὴ εἰδυίας. ἔτους εἰκοστοῦ Αὐτοκράτορος Καίσαρος Νερῶα Τραϊανοῦ Σεβαστοῦ Γερμανικοῦ Δακικοῦ Παῦνι . . .]*. Cf. the Hypographe of *P. Oxy.*, II, 275.

¹ Lewald, *Zur Personalexekution*, pp. 13 ff.; Berger, *Strafklauseln*, pp. 171–72; Wilcken, *Papyruskunde*, I, 1, p. 261.

who is working for an artisan under the *παραμονή* relationship must receive training in the particular trade of the creditor in whose shop he works. For example, in *P. Teb.*, II, 384, the labor of the lad Pasion is to take the place of interest upon 16 drachmas borrowed from a weaver by two brothers. Pasion is to work at the weaver's trade (line 4), is not to absent himself by night or day (line 6), and the weaver is responsible for the trade tax upon him. Nothing is said about training, nor need anything be said. The boy cannot but develop further skill in his work during his year under the weaver. From the standpoint of the fiscus he is regarded in the same light as an apprentice, because the trade tax is imposed upon him just as upon any boy working in the shop under an apprentice contract.

APPRENTICESHIP IN THE ANCIENT WORLD PRECEDING THE PERIOD OF THE PAPYRI

Our apprentice contracts show that the method of training for the trades in Roman Egypt was the apprentice system. Scattered indications have been gathered in various places and briefly commented upon, which show that throughout antiquity the apprentice system was in vogue and that it has had a continuous history. For Pharaonic Egypt the teaching of scribes under this system is assured.¹ The training for trades was undoubtedly by the same system. In the Code of Hammurabi the relation of apprentice and teacher was provided for under the form of a legal adoption of the apprentice by the master workman. If the artisan taught the boy a handicraft, the father had no further claim upon his son whom the artisan had adopted. In case the adopting father did not teach the boy, the latter might return to his father's house.² Evidently the trades were regarded as a hereditary and family matter and the statutes of Hammurabi gave legal recognition to that fact. In case the father did not wish his son to follow his own trade, the state sanctioned a change under a loose form of adoption, the purpose of which was apparently industrial. It is to be noted that this system protected the interests of both sides. The master workman had the use of the boy's labor, apparently until he became of legal age, as remuneration

¹ Maspero, *Dawn of Civilization: Egypt and Chaldea*, pp. 287-88.

² R. F. Harper, *Code of Hammurabi*, Nos. 188-89, p. 71.

for his trouble in training him. The apprentice and his father were protected from mere exploitation of the apprentice's labor by the provision that the adoption was void in case the master workman failed to meet satisfactorily the demands of instruction.

For the later Babylonian period we have contracts of apprenticeship of slaves to the following trades: weaving, fulling, baking, stone-cutting.¹ The length of apprentice service varies in these contracts from fifteen months in the baking trade to five years for weaving and six years for fulling cloth. These periods must not be regarded as a required term of apprenticeship for each of the trades mentioned. A comparison of the Greek contracts from Egypt shows that in that country, at least, the contracts were made for different lengths of time in the same trade. The master workman of the Babylonian contracts was obligated to feed the apprentice and supply him with clothes. This is customarily the case in the papyri contracts from Roman Egypt. The master workman of the Babylonian contracts received no other pay for his instruction than the gain to be had from the apprentice's labor. This is the case, also, in our Greek papyri contracts when the apprenticeship is to a minor trade, such as weaving.

The primal consideration in any discussion of industrial and professional education among the Greeks is the fact that for them the modern distinction between trade, craft, and profession did not exist. All shared alike the name *τέχνη*, and in all of them the system of training was through the apprentice relationship.² Thus, Plato compares the work of the doctor and the builder, stating that of each of these *τέχναι* there are two functions, the practice of it and the teaching.³ The physician who teaches is a *διδάσκαλος* and his pupil a *μαθητής*.⁴ In like manner the teachers of the lesser trades are

¹ C. H. W. Johns, *Babylonian and Assyrian Laws, Letters and Contracts* (1904), pp. 181-82.

² For medicine as a *τέχνη*, see Plato *Laws* 720; for the *τεκτονική τέχνη*, *Cleitophon* 409b; for *τέχνη χαλκευτική*, *Laws* 846e; for flute playing as a *τέχνη*, *Meno* 90e; *τέχνη ἐρμολυφική*, *Lucian Somnium* i. 2; *τέχνη μουσική*, *Dittenberger, Orientis Graeci Inscriptiones*, 383, lines 160-65.

³ *Gorgias* 514b; cf. Aristotle *De anima* i. 1. 11.

⁴ Aristotle *Ethics* vii. 11. 31.

called *διδάσκαλοι*.¹ The potter, like the physician, is both a craftsman and a teacher. If he is unable to supply the proper working materials, his industrial output suffers and his sons, or others whom he may be teaching, will be inferior workmen.² The training is exacting. The potter's apprentices are not permitted to put their hands to the actual making of pots until they have watched the process for a long time, acting meanwhile as servants about the shop.³ There are indications in the literature that the teaching was done under a regular contract or agreement made beforehand. The man who is training a boy to run, according to Plato,⁴ makes an agreement that he be paid a certain sum as soon as he has developed in the learner a certain degree of speed; and other classes of teachers do not leave the question of pay to the apprentice.

The following of a certain trade seems, in the main, to have been a hereditary matter.⁵ A Delphic inscription of manumission shows that the knowledge of a trade might be imparted from one slave to another,⁶ as in the period of the later Babylonian contracts. In the decree which records his manumission, a slave, Sosos, is obligated to teach his trade, the nature of which is not stated, to some other slave if his former master should furnish one: *καὶ τεχνίταν ἐγδιδαξάτω Σῶσος Καλλιξένῳ εἰ κα δῶη Καλλιξενος τὸ παιδάριον Σῶσω*.

¹ Xenophon *Memorabilia* iv. 2. 2: *τὰς μὲν ὀλίγον ἀξίας τέχνας μὴ γίγνεσθαι σπουδαίους ἀνευ διδασκάλων*. For *μαθητής* as apprentice of a flute player see Plato *Meno* xxvii (90). For a dedicatory offering of Eutyches, a master workman in bronze, and his apprentice, Paulus, in the time of Elagabalus, see Dittenberger, *Or. Gr.*, 590.

² Plato *Republic* 421e.

³ Plato *Republic* 467a. The word used here is *παῖδες*. The context implies that they are free boys, not slaves.

⁴ *Gorgias* 520; cf. Freeman, *Schools of Hellas* (1907), p. 44. Freeman seems to have been unacquainted with the apprentice contracts already available among the published volumes of papyri when he gathered his material upon industrial training among the Greeks. His reference to Xenophon *Revenues* ii. 2 (p. 44, n. 5) is wrong.

⁵ Freeman, *Schools of Hellas*, p. 44. See Dittenberger, *Or. Gr.*, 383, lines 160-70, for the *μουσικολοί* in connection with a sanctuary and worship established by Antiochus I of Commagene. The *μουσική τέχνη* and the liturgic musical service was to be hereditary in certain families and those who carried out this liturgy were not to be annoyed by other exactions: *οἱοὶ τε τούτων καὶ θυγατέρες ἐκγονοὶ τε αὐτῶν ἅπαντες διδασκόμενοι τὰς αὐτὰς τέχνας*. In *P. Oxy.*, IV, 724 the trade of shorthand writer is followed by a father and son.

⁶ Dittenberger, *Sylloge*², 858.

INDUSTRIAL AND OTHER ASPECTS OF THE SYSTEM

We have sufficient evidence to postulate a fully developed system of apprenticeship on a basis of obligatory contracts for the ancient world including Greece, from the period of the Babylonian contracts to the time of our Greek-Egyptian contracts. For the details of the system we must return to the papyri.

The age of beginning the training for the different *τέχναι* necessarily depended upon the nature of the trade. In the case of shorthand writers a sufficient reading and writing knowledge of Greek must be presupposed before the boy could enter upon his apprenticeship. This does not apply in the case of the hieroglyph carvers. In the second century of our era, when the declaration of hieroglyph carvers (*P. Oxy.*, VII, 1029) was made, the teaching of hieroglyph carving apparently meant nothing more than imparting the mere technique of carving the sacred letters.¹ In the *Techne* of shorthand writing (*P. Oxy.*, IV, 724), the skill of the apprentice was practically unremunerative to the teacher so long as the student was still under instruction. Therefore the teacher of shorthand receives a stipulated payment for instruction of 120 drachmas, made in three instalments. The first was paid at the time of making the contract. The second is to be paid when the slave has mastered the *κομηντάριον* in its entirety, the third when he writes fluently and reads faultlessly. If the slave masters the subject before the expiration of the stipulated two years of the course, the teacher is not compelled to keep him for the full term. This provision is as advantageous to the owner of the slave as to the teacher, because the slave would become a source of income to his owner as soon as he should become proficient in the *Techne*. The teacher's reputation is protected from indifference and "cutting" on the part of the slave by a provision that the slave, in case he does not become proficient before the two years expire, must remain with the teacher, after the expiration of the stipulated term, for as many days or months as he may not have worked. Feast days, however, are holidays (line 6). The terms of payment indicate clearly that there are two distinct periods of instruction: *τὴν δὲ δευτέραν (δόσιν) λήψῃ τοῦ παιδὸς ἀνελιφότος τὸ*

¹ For the decay of the ability to compose a text in the old Egyptian see Otto, *Priester und Tempel im hellenistischen Aegypten*, II, p. 233.

κομεντάριον ὅλον ἐν δράχμαϊς τεσσαράκοντα, τὴν δὲ τρίτην λήψομαι ἐπὶ τέλει τοῦ χρόνου τοῦ παιδὸς ἐκ παντὸς λόγου πεζοῦ γράφοντος καὶ ἀναγινώσκοντος ἀμέμπτως. The payments are customarily marked by years or months in these contracts, here by a definite division in the course of instruction. The κομεντάριον can be nothing else than the set of exercises constructed by the teacher through which the learner obtains the elementary knowledge of the σημεῖα. When this has been mastered in its entirety (ὅλον) the second period begins, in which the apprentice practices to obtain fluency and accuracy in reading and writing the symbols. The teacher, as well as his father, are σημειογράφοι. As in the case of the physicians and builders mentioned by Plato (*Gorgias* 514b), their functions are double, the practice of their *Techne* and the teaching of it.

Very similar to the preceding case is *B.G.U.*, IV, 1125, in which a slave is apprenticed to a flute player for six months.¹ As in the case of the shorthand writer, the flute player is able to obtain the most favorable conditions in the contract² because of his specialized skill, and because the *Techne* is probably a well-paid one when the proper skill is once attained. The contract calls for instruction in special accompaniments, ὑπαυλισμούς and λειτουργίας, and in κρούματα, which are perhaps solo compositions (Schubart). The pay is fixed at 100 drachmas. One-half is to be paid immediately, the remaining 50 drachmas in six months, which is undoubtedly the end of the term. The owner of the slave looks after the food and clothing of the apprentice. The sole obligation of the teacher is that of instruction. The contract seems to provide for an examination of the apprentice by three men at the end of the stipulated term, in order to determine whether the apprentice has been properly instructed. These men are to be chosen by the two parties to the contract in common and must themselves be proficient in the *Techne*: [ἀνδρῶν γνωρίμων τριῶν, ὧν κατὰ κοινὸν ἐλώμεθα τοῦ αὐτοῦ εἶδους μεμαθηκότας τὴν προκειμένην τέχνην ἐπιμελῶς (line 10)]. This is the only indication we have of any test applied to the teacher's work, although some similar method must have been used in all the *Technai*

¹ The length of the apprenticeship appears from the rough draft of this contract which Schubart has published as 1125³ and 1125⁴.

² Schubart in a note to *B.G.U.*, IV, 1125.

which demanded a highly specialized skill, such as that of shorthand writing.¹

The remaining contracts deal with industries which we more definitely denominate as "trades," weaving, nailsmithing, and hair-dressing. Only minors or slaves are legally subject to apprenticeship, although there is no statement in *P. Teb.*, II, 385 that the boy Cronion is a minor. The weavers of Oxyrhynchus had more than one apprentice working under them at the same time (*P. Oxy.*, IV, 725): *ποιούντα πάντα τὰ ἐπιταχθησόμενα αὐτῷ ὑπὸ τοῦ αὐτοῦ διδασκάλου ὡς ἐπὶ τῶν ὁμοίων μαθητῶν*. This was undoubtedly true, also, in the other trades.²

The periods of apprenticeship in the contracts vary widely for the same trade. For apprenticeship to weavers we find terms of one year, two years, and five years. In *P. Oxy.*, II, 275, Tryphon, a weaver, apprentices his son to another weaver for one year. 'This cannot be regarded as the full time required to learn the trade. We know that Tryphon, in that same year, was suffering from cataract and partial loss of sight.³ He may for this reason have apprenticed his son to another weaver for only the one year, hoping to complete his training in his own shop. In *P. Teb.*, II, 385, Heron agrees to teach the boy Cronion the trade in its entirety (*ἐντελῇ*) within two years. This, or better, the three-year term of the hairdresser in *B.G.U.*, IV, 1021, I judge to be about the normal period in the lesser trades before the apprentice is ready to enter the field as an independent wage-earner. The question is difficult to decide because the contracts give us no information as to whether the apprentice has had previous training in the trade. It is evident from *B.G.U.*, IV, 1124, that, under certain conditions, a contract of apprenticeship might be annulled (lines 19–22) and the training proceed under

¹ Compare the official test applied in *P. Teb.*, II, 291, col. 2, to a priest whose claim to membership in the priestly order has been called into question. The validity of his claim is established through his knowledge of hieratic and Egyptian letters. These he reads from a sacred book which the priestly scribes place before him. This test had been made obligatory, presumably in those cases where no satisfactory proof of parentage could be obtained, in an official memorial (*ὑπόμνημα*) of that same month. The papyrus is interesting, also, as indicating the degree of decay of the Egyptian sacred script in 162 A.D. A reading knowledge of Egyptian hieroglyphs is sufficient proof of priesthood. See Otto, *Priester und Tempel*, II, p. 233, n. 3.

² Cf. Plato *Republic* 421e: *καὶ τοὺς υἱεὺς ἢ ἀλλοὺς οὓς ἀν διδάσκει*.

³ *P. Oxy.*, II, 267, introduction, p. 244; cf. *P. Oxy.*, I, 39.

another workman. In the case of Tryphon's son it is apparent that his one year's apprenticeship does not cover the period of training, and that it must be continued either under the same master workman, Ptolemaeus, or under Tryphon, or some other weaver.

The terms of the contracts indicate that the apprentices lived and took their meals, not at the homes of the master workmen, but at those of their fathers, mothers, guardians, or owners, as the case might be. Tryphon, in *P. Oxy.*, II, 275, agrees to clothe and feed his son throughout the year of apprenticeship; but Ptolemaeus, the master workman, is to pay to Tryphon 5 drachmas a month to account of food (lines 14-19). Heron, the master workman of *P. Teb.*, II, 385, pays to Thephersais, mother of the apprentice, 4 drachmas a month *εἰς τροφῶν λόγον*, the boy being fed by his mother. In *P. Oxy.*, II, 322, Thamounion, mother of the apprentice, receives 4 drachmas a month to the account of food.¹ The conclusion drawn from these statements is that the apprentices live at home. This conclusion is made a certainty by *P. Oxy.*, IV, 725, and *B.G.U.*, IV, 1021. In these contracts Ischyron and Aurelius Sentius agree to furnish the apprentices, in the one case probably a ward, in the other a slave, from sunrise to sunset. In those contracts in which the service of a boy or slave takes the place of interest upon a loan, the so-called *παραμονή* contracts, the boy or slave is usually obligated to live at the house of the creditor (*P. Teb.*, II, 384): *οὐ γεινόμενος ἀπόκοιτον οὐ δ' ἀφήμερον ἀπὸ τῆς Πασίωνος οἰκίας*. Compare *P. Hib.*, 148: *μὴ ἐξουσία δ' ἔστω Πόρωι μῆτε ἀποκοιτεῖν μῆτε ἀφημερεύειν ἄνευ τῆς Ἐπιμένους γνώμης*.² This is presumably the case, also, in *P. Flor.*, 44, a similar contract of service for debt, in which the labor is *ἀντὶ δὲ τῶν τούτων τόκων καὶ τροφῶν καὶ ἱματισμοῦ* (lines 16-17). There is no arrangement for payments to Tasucharion for the food of her son, Sarapammon. He must therefore take his meals, at least, at the home of the creditor Demetrius.

The evidence is meager regarding the money payments to the

¹ See note to *P. Oxy.*, II, 275.

² Berger, *Strafklauseln*, p. 167, has wrongly cited *P. Hib.*, 148, as a case of apprenticeship and supports his statement that in the apprentice contracts the apprentice is obligated to remain at the house of the master workman day and night, by a citation of *P. Oxy.*, II, 275, line 34. There is no such provision in *P. Oxy.*, II, 275. On the contrary the son of Tryphon obviously takes his meals and sleeps at home (lines 14-15).

natural or artificial guardians as wages of the apprentices. In *P. Teb.*, II, 385 the cost of the apprentice to Heron, the weaver, during the two-year period, is as follows: τὰ ὑπὲρ αὐτοῦ τῆς διετείας δημόσια, the amount of which is difficult to determine, because of lack of definite knowledge regarding the weaver's tax and the pig tax;¹ wages, 14+12+20 drachmas, total 46 drachmas; to account of food 4 drachmas a month, total 96 drachmas; clothing (amount not stated, estimate from *P. Oxy.*, II, 275), 12 drachmas a year, total 24 drachmas: total expenditure for apprentice's labor, 166 drachmas or 83 drachmas a year + taxes on the apprentice.

In *P. Oxy.*, II, 275, Tryphon, the father, pays all the taxes. Ptolemaeus, the master weaver, pays no wages, 5 drachmas a month to account of food, 12 drachmas for clothing for the apprentice: total, 72 drachmas.

In *P. Oxy.*, IV, 725, Ischyryon, presumably guardian of the apprentice, agrees to feed the boy. There is no arrangement for taxes. Wages paid by the master weaver in return for the apprentice's labor increase during the five years of apprenticeship on the following scale: first year, clothing 16 drachmas, no wages; second year, clothing 20 drachmas, no wages; third year, clothing 24 drachmas, wages for five months at 12 drachmas per month, 60 drachmas: total for the year, 84 drachmas; fourth year, clothing 28 drachmas, wages 16 drachmas per month, 192 drachmas: total for the year, 220 drachmas; fifth year, clothing 32 drachmas, wages 24 drachmas per month, 288 drachmas: total for the year, 320 drachmas. The rapid rise in wages of the apprentice at the end of the third year supports my belief that in the weaving trade, at least, the apprentice is sufficiently trained after the third year to be industrially equipped as an independent producer in his trade. It is evident from the foregoing analysis that there is no set scale of wages for apprentices in the weaving trade. The contracting parties obtain the best terms which they can in accordance with the local customs and their own ability to barter. But the increasing skill of the apprentice comes into the reckoning when the apprenticeship is for a long term of years.

¹ See Wilcken, *Griechische Ostraka*, I, p. 712. Grenfell-Hunt (*P. Oxy.*, II, 275) put the amount of the trade tax on weavers at about 36 drachmas for Oxyrhynchus. In the tenth year of Tiberius the weaver's tax paid by Tryphon was 39½ drachmas.

AGE OF ENTERING UPON APPRENTICE TRAINING

The beginning of Lucian's *Ἐνύπνιον* throws some light upon apprenticeship in the second century in Syria. When Lucian had ceased going to school, *ἤδη τὴν ἡλικίαν πρόσηβος ὢν*, his father called together a council of friends to determine for what the lad should be trained. His age was probably about fourteen at the time.¹ This meeting was apparently a typical scene, although the boy was apprenticed to his uncle and the matter was one within the family and apparently without a definite contract. The details of the apprenticeship of Lucian are of no value to us; but in the discussion between the father and his friends the statements about apprenticeship in the lesser trades coincide with the information derived from the papyri contracts. The apprentice in any of the lesser trades (*τέχνη τις τῶν βαναυσῶν*), say the friends at the council, obtains a living from his trade from the outset. He is no longer dependent upon his father, *μηκέτ' οἰκόσιτος εἶναι τηλικούτος ὢν*, just as in the weaving contracts, where the master workman is customarily responsible for the food and clothing of the apprentice. Before long, if he should follow one of the lesser trades, Lucian would gladden his father's heart with the wages which his work would bring in.

The age of entering upon the apprenticeship, as indicated in Lucian's case, is approximately the same as that indicated by the papyri contracts from Egypt. The point of departure for determining the matter of age must be the Epikrisis, or examination for "selection" of boys who are privileged to total or partial exemption from the poll tax. This is the non-military or fiscal Epikrisis, which occurred between the ages of eleven and fifteen.² The age at which the poll tax was imposed was fourteen. It is best to avoid using the age of legal minority, expressed in the terms *ἀφῆλιξ* and *μηδέπω ὢν τῶν ἔτων*, as the basis in attempting to decide the customary age of apprenticeship, because the age at which a boy ceased to be *ἀφῆλιξ*

¹ Cf. Lucian *Somnium* 16, *ἀντίπαις ἔτι ὢν*.

² For the literature upon the *ἐπικρισις* see Wilcken, *Papyruskunde*, I, 1, p. 196, n. 5. A clear example of the age of the *ἐπικρισις* is *P. Gren.*, II, 49, in the petition of Didymus and his wife upon the *ἐπικρισις* of their son: *τοῦ ἐξ ἀλλήλων νιοῦ Ἀνουβᾶ προσβάαντος εἰς ἰδ' ἔτος τῷ ἐνεστώτι ἔτει . . . καὶ ὀφείλοντος ἐπικριθῆναι*.

is not yet decided.¹ Whatever the age of majority may be, it is clear that all free-born apprentices were ἀφήλικες at the time of beginning the apprenticeship. This is proven by express statement in *B.G.U.*, IV, 1024, line 10; *P. Oxy.*, II, 275, line 9; *P. Oxy.*, IV, 725, line 7. Obviously the boy Cronion, in *P. Teb.*, II, 385 is ἀφήλιξ, although there is no statement of the fact, because his mother is the legal agent in drawing up the contract.

Decisive evidence upon the question of age is gained from *P. Oxy.*, II, 322, "descriptions," and the additional information upon this document given in *P. Oxy.*, II, 275, note, to line 17. It is a contract by which Thamounion apprentices her son Tryphon for two years to a weaver named Abarus. It is agreed that "the poll tax, dike tax, and pig tax, which are *about to be exacted* upon the boy [ἀπαιτηθισομένης] are to rest upon Thamounion." The χειρωνάξιον, or trade tax, was subject to a special agreement, which, as the editors report, is obscure because of the mutilated condition of the papyrus. The apprentice is here, also, described as a minor οὐδέπω ὦν τῶν ἔρων. The text quoted by the editors is important in the discussion: τῆς [ὕπὲρ] τοῦ παιδὸς ἀπαιτηθισομένη[s] λαογρ[αφί]as καὶ χωματι[κοῦ] καὶ ὑκῆς οὐση[s] πρὸς [τῇ]ν Θαμούνιον.² The age for beginning the poll tax has been definitely proven to be fourteen.³ It is probable that the χειρωνάξιον, which does *not* fall under the group of taxes about to be required, is exacted upon the beginning of apprenticeship and is therefore considered separately. From *P. Oxy.*, II, 288, also, it is evident that the trade tax was imposed before the incidence of the poll tax. Tryphon, born in 9–10 A.D. (line 39), paid 7½ drachmas as trade tax in 21–22 A.D., at the age of thirteen. In the following year he paid, in addition to the trade tax, the identical taxes which were soon to fall upon the apprentice of *P. Oxy.*, II, 322, namely, the poll tax, pig tax, and dike tax. The evidence, though meager, seems decisive. The apprentice of *P. Oxy.*, II, 322 began his apprenticeship at the age of thirteen.

¹ Wilcken, *Papyruskunde*, I, 1, p. 197, seems to regard the age limit of the ἀφήλικες, i.e., the age of majority, as fourteen. Cf. Grenfell-Hunt, *P. Oxy.*, II, 247, line 12: "The legal age was probably fourteen, when men became liable to the poll tax." Decisively opposed to this view is Mitteis, *Papyruskunde*, II, 1, p. 251, and n. 4.

² *P. Oxy.*, II, 275, line 17, note.

³ See Wilcken, *Griechische Ostraka*, I, p. 242; *Papyruskunde*, I, 1, p. 197.

Tryphon was certainly in the trade at the age of thirteen, since he paid the weaver's tax at that age.¹ The usual and simpler method of arranging for the taxes on apprentices was undoubtedly that followed in the contracts (*P. Teb.*, II, 385 and *P. Oxy.*, II, 275). One or the other of the contracting parties would assume the payment of all the taxes which would fall, immediately or later, upon the apprentice, τὰ δημόσια πάντα or τὰ ὑπὲρ αὐτοῦ τῆς διετείας δημόσια. In the case of the weavers this seems to have included the trade tax, beginning immediately, and the poll tax, pig tax, and dike tax, beginning at the age of fourteen.

That the trade tax was exacted from all workers in a given trade, whether skilled workmen or apprentices of whatever age, is further indicated by *P. Oxy.*, VII, 1029. This is the return, mentioned above, to the basilicogrammateus for 107 A.D. of the hieroglyph carvers of Oxyrhynchus, classified by districts. The return is evidently made for the purpose of determining the trade tax.² The carvers take oath that they have no aliens or apprentices working at the trade. It is evident from this document, as well as from *P. Oxy.*, II, 275 and II, 322, that the state formally recognized the apprentice system, at least to the degree required in order to bring apprentices into the fiscal system for taxation. When our contracts do not definitely mention any arrangement for the taxes upon the apprentice, as in *P. Oxy.*, IV, 725, they must have fallen upon the natural or artificial guardian of the apprentice.

There is no evidence that the organizations of craftsmen in any way regulated the apprentice system, as to number of apprentices, age or period of apprenticeship. Apparently there is no fixed term of training and no fixed scale of wages, at least in the weaving trade,

¹ The conclusion as to age finds some support in Plato *Laws* 850. Plato seems to feel that the industrial efficiency of an artisan begins at the age of fifteen. For he would permit the children of metics who become artisans to remain in the state twenty years, beginning to estimate the period of their sojourn after the fifteenth year. Granting two years for their training, their apprenticeship would begin at the age of thirteen. Granting three years for industrial training, the apprenticeship would begin at the age of twelve.

² W. Otto, *Priester und Tempel im hellenistischen Aegypten*, I, p. 112, gives the warning that the *λεπογλύφοι*, masons, and other laborers about the temples must not be confused with the priestly classes. The analogy made by the editors between this return of the hieroglyph carvers and the lists of the priests and temple revenues annually supplied to the strategē or basilicogrammateis conceals its real character.

which alone offers us sufficient cases upon which to base comparisons. The interest of the state in the system seems to have been confined, so far as the material permits one to judge, to the exaction of the trade tax upon the apprentices and the enforcement of the contract by the infliction of fines for breach of agreement. I doubt very much that these fines, payable partly to the state, partly to the party injured, were fixed by any statute, since they vary in different contracts. In the present state of the evidence one can only conclude that the apprentice system in Roman Egypt was a widespread institution, based upon contract, which was recognized and enforced by the common law, rather than by any formal enactment. Probably in some *νόμος τελωνικός* upon the trades, provisions were enacted for the taxing of apprentices. I doubt, however, that one can safely postulate any statute regulating the system in its industrial or educational aspects. This conservative attitude is all the more advisable because no enactments upon the apprentice system are found in the Roman codes, despite the fact that it was undoubtedly prevalent in other parts of the empire as it was in the province of Egypt.¹

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¹ It is evident from indications in the Codes of Theodosius and Justinian that the apprentice system continued to exist throughout the empire, with a continued tendency on the part of the government toward regulation for fiscal purposes, and a marked hardening of the hereditary principle in the choice of a trade. See *Cod. Theod.* xiii. 4 and indications collected from the Digest by Berger, *Strafklauseln*, p. 169, n. 1, of the existence in the Roman law of the type of contract in which the teacher, or master workman, receives pay for instruction (*Lehrverträge*).