



HAL
open science

The Meaning of Debt in Classical Greece

Laurent Gauthier

► **To cite this version:**

| Laurent Gauthier. The Meaning of Debt in Classical Greece. 2022. hal-03991823

HAL Id: hal-03991823

<https://univ-paris8.hal.science/hal-03991823>

Preprint submitted on 16 Feb 2023

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

The Meaning of Debt in Classical Greece

Laurent Gauthier¹

December 2022

Abstract

The study of ancient Greek economic thought is delicate, because the texts in which it is expressed can be interpreted in many ways, as evidenced by the long debate between primitivists and modernists. We examine a particular aspect of economic life, debt, following a lexicological approach, in order to grasp its perception by the ancient Greeks by studying the words associated with it. This lexicological perspective enables us to go beyond a purely economic analysis of debt relationships. We concentrate on the archaic and classical periods and show, through our analysis of how debt operated for the Greeks, that in spite of the presence of many sophisticated mechanisms closely resembling the modern concept of debt, there were fundamental distinctions. The notion of value, essential in the modern understanding of debt, was not a factor in the ancient Greek context.

¹ Email: laurent.o.gauthier@gmail.com. I would like to thank Julien du Bouchet his comments on this work.

Studies in the history of economic thought tend to leave Antiquity aside, and general handbooks such as Backhaus (2012) or Samuels, Biddle and Davis (2003) only dedicate a handful of pages to the ancient theorists of economic thought. The analysis of the ancient economy has occupied historians more often than economists, and a majority of works in the field of ancient Greek finance, in particular, have been carried out by historians, with few exceptions: see Millett (1991), Migeotte (2014), Bresson (2016) and Leese (2021) for example, for various aspects of personal or city-level credit. In fact, in order to analyze the Ancients' economic thought, one typically has to resort to reading between the lines of the scarce available material, as Schefold (1997) for example proposes to do, combing through ancient Greek poetry to examine certain economic thought processes. Gathering relevant economic data for ancient Greece is indeed nearly impossible, and the compilation of economics facts by Amemiya (2007) for the period effectively makes this paucity very clear.

Because of the lack of data, properly qualifying the ancient economy, in particular as it relates to finance, has remained an elusive goal. Indeed, as Poitras (2021) stressed, many economic historians have been more concerned, when they examined ancient evidence, with the extent to which there was a market economy, rather than with the details of particular financial mechanisms. We do not attempt here to engage in the "modernist vs. primitivist" debate, realizing, along with Hobson (2013) in the case of the Roman economy, that this opposition is not a fruitful heuristic. Following an approach broadly similar to that of Poitras (2021), we concentrate on some detailed aspects of financial debt in ancient Greece, thanks to the close reading of particular texts in a lexicological perspective, in order to establish to what extent and in what manner it differs from our modern understanding of debt.

The trans-historical aspect of the notion of debt may help us point out these differences between the Greek world and ours, and in that process also more clearly stress some of the implicit assumptions we make when we manipulate the modern notion of debt. Unfortunately, the analysis of individual debt transactions in classical Greece cannot rely on any consistent documentary corpus, unlike, for example, data on personal loans in the late 18th century (Dermineur 2019). We therefore follow a specifically lexicological approach, that is, we seek to understand all the uses of words associated with debt during the archaic and classical periods, and, through this, to grasp what they represented for the Greeks.

Lexicology and etymology, as complements to a philological reading, allow us to explore patterns that a purely economic reading might not identify.

We decompose debt into several stages, and for each we analyze the most important terms in ancient Greek, following a lexicological perspective, focusing on the detail of their uses. Our breakdown of debt phases corresponds to the typical life cycle of a loan in financial economics. The next four sections therefore focus on: debt creation, the act of lending and borrowing (Section I), collateralization and estimating the value of collateral (Section II), associated gains and profits (Section III), and finally defaults, recovery and potential debt cancellation (Section IV). Section V concludes.

In order to study terms associated with debt from a lexicological point of view, we started with a large list of the most common words in French or English related to the notion of debt. Then, we identified all the terms in Greek whose translation contained one of these debt-related words in French or English². The three hundred or so Greek words thus obtained were categorized according to the phases of debt to which they refer, and their occurrences in texts and inscriptions were systematically tracked across the archaic and classical periods. Analyzing occurrences of hundreds of words in hundreds of works is not feasible using the lexicographic tools commonly used by philologists, such as the *TLG* (Pantelia 2020). In order to build appropriate text corpora, we used the *Diorisis* dataset (Vatri and McGillivray, 2018a, 2018b), augmented with the categorization proposed by Tauber (2020, 2021). For inscriptions, we extracted and systematically lemmatized all entries in the *PHI* database, see ("PHI Greek Inscriptions", n.d.), using the *Classical Language Toolkit* (Johnson et al. 2019). Processing texts and inscriptions in this manner allowed us to explore all occurrences of terms or phrases of interest, and to also check historical trends in the frequency of their use.

I

Among the ancient Greek terms that designate debt in general, we retained four word families that show high occurrences in the classical period: δάνειον, ἔρανος, ὀφείλω and χρέος seem to concentrate references to the basic notions of debt, borrowing or lending.

While χρέος (the debt) and ὀφείλω (to owe) stem from general notions of obligations, the noun δάνειον specifically designates a loan made at interest, with the verb form δανείζω

² Dictionaries used: Liddell et al. ([1940] 1996), Bailly ([1894] 2020), et Diggle (2021).

designating the act of lending at interest. The study of occurrences shows us that "lending at interest" is much more frequently expressed by this term δανείζω than by τοκίζω, an equivalent term based on τόκος (the interest, the offspring). The concept of a 'loan at interest' is therefore more naturally associated with the general meaning of "loan", itself derived from "gift" (δάνειον being cognate with the Latin *datum*), than with the term which specifically designates interest. Making a loan at interest is hence more based on an evolution of reciprocity in an exchange relationship, than on the expectation of what the loan in question will produce.

The term ἔρανος is in fact associated with sharing a meal and by extension refers to an interest-free loan, obtained from relatives or close friends, and without a precise maturity³. One may translate this term as a "private loan", even if this translation does not imply the absence of interest; it does, however, indicate a special relationship between the debtor and the creditor. Plato gives us a short definition of this *eranos*:

ἔράνων δὲ πέρι, τὸν βουλόμενον ἐρανίζειν φίλον παρὰ φίλοις

About private loans, may the friend who wishes so borrow from his friends⁴.

We see the link between this private loan and close acquaintances, the *philoï*. According to this definition, that the salient aspect of the *eranos* is not so much the fact that it bears no interest, but rather that it is contracted from friends. The *philia* is a semi-formal institution, and it combines many advantages and duties, a bundle of reciprocal obligations, some even hereditary from fathers to sons. These loans are made with a reciprocity in view: "giving back in return" (Millett 1991, 155-156).

The terms δάνεισμα or ὄφλημα, which designate debt, can be used to designate assets, as well as the fact of "owing something". On the other hand, we have not detected any use of χρέος in the sense of "asset", in spite of its use as "obligation". This word is therefore more specifically associated with the debtor's point of view, with a meaning closer to that of a "liability". Moreover, there is no term in Greek exclusively designating debt as an asset, unlike in English: the word "bond" in its financial sense refers to a financial instrument, an asset. However, the borrower cannot "*borrow a bond" but rather "issue or sell a bond". A sentence from Isaeus gives us an example of the use of a term for debt, δάνεισμα, as an asset:

³ "With the understanding that they would be paid back as soon as the borrower was in funds", Millett (1991), p. 153.

⁴ Plato *Laws* XI, 915e. Unless otherwise stated, the translations are ours.

χωρίς δὲ τούτων δανείσματα οὐκ ὀλίγα, ἀφ' ὧν ἐκεῖνος τόκους ἐλάμβανε

In addition to this, the latter [owned] interest-bearing loans in large numbers, from which he derived interest⁵.

The debt, designated here by a noun derived from the root *daneion* is by nature interest-bearing. In another speech, Isaeus uses the term ὄφλημα to designate debts again in the sense of an asset from the creditor's point of view. He does specify that these are debts ἐξ ἐράνων, that is to say, resulting from private loans of the *eranos* type. This clarification emphasizes that the noun ὄφλημα, like the verbal form, requires to specify what is due, the meaning of obligation being otherwise too general. In another example, even an interest-free loan is considered an asset, for the value of its principal:

πρὸς δὲ τούτοις ἐξ ἐράνων ὀφλήματα εἰσπεπραγμένα, μικροῦ δεούσας χιλίας δραχμάς, μαρτύρων ἐναντίον ἢ μήτηρ αὐτοῦ, τοῦ παιδός, ἀπεγράψατο

In addition to this, the child's mother included in the inventory private interest-free debts in a private capacity which were collected, for almost a thousand drachmas, in front of witnesses⁶.

This rapid analysis of the terms relating to the creation of debt allowed us to understand certain distinctions made by the Greek language between concepts which, in contemporary English, are commingled or not expressed. We noted, in fact, the gap between a loan between friends and an interest-bearing loan, which, it seems, would correspond to the anthropological difference between a gift or counter-gift and financial debt (Mauss [1925] 2007). Debt itself, as we have emphasized, is expressed with different words from the point of view of the creditor, as an asset, as opposed to the point of view of the debtor, for whom it is expressed as an obligation, a liability.

II

Debt may be associated to a guarantee in the form of some goods (collateral) or a person who is obligated to ensure repayment⁷. In principle, debt belongs to bilateral logic, with a borrower and a lender. The notion of collateral adds a third element in this relationship,

⁵ Isaeus, *On the Estate of Ciron*, 35.

⁶ Isaeus, *On the Estate of Hagnias*, 43. Michael Edwards translates as "fines recovered on interest-free loans" (see Isaeus (2007), p. 191), but this does not seem appropriate in view of the nature of the debt.

⁷ Note that a recourse against a guarantor is not the same as taking possession of the borrower as a slave. In the latter case, the borrower or his family effectively serve as collateral for the loan.

whether it is a good or a guarantor. This changes the nature of the debt, since the debtor is no longer strictly speaking solely responsible for repayment, but is assisted by this collateral or guarantee. Similarly, the lender no longer has a single interlocutor, but must take into account the existence of this third party, with whom they will necessarily have to deal in the event of default. This intermediation created by collateral seems to correspond to the "compensation by all means" of a debt of honor. Indeed, about the words for punishment, payment, revenge or retribution, "semantic comparison of this set of words suggests that Indo-European had an undifferentiated legal and ritual concept of payment or compensation⁸". It seems logical, by extension, that debt may be depersonalized through collateralization.

To analyze the notion of collateral, we study several examples of the use of some common words in debt descriptions. We will then look at the estimation of the value of the collateral. The main terms we have identified that designate collateralization or guarantee are ἐγγυάω (to guarantee), ὑποθήκη (a mortgage), ἐνέχυρον (a guarantee) and their derivatives. Even if the meaning of these terms may be fairly comparable, we will see that they designate fundamentally distinct realities.

The following excerpt from a speech by Demosthenes illustrates the use of the verb ἐγγυάω, in a context of debt to be repaid (ἀποτείσειν), however the term is not applied to the debt itself, but to the fact of repaying it (ταῦτα). The guarantee, in this case, hence applies to the person himself:

καὶ γὰρ οὐδὲ λόγον τὸ πρᾶγμα ἔχον ἐστίν, τὸν αὐτὸν αὐτῷ μὴ δυνάμενον κομίσασθαι
τάλαντον, τοῦτον ἄλλω τινὶ φάσκειν ἀποτείσειν καὶ ταῦτ' ἐγγυᾶσθαι.

For there is no logic to this matter, that this man himself unable to recover a talent declares that he will repay it to someone else and guarantees this⁹.

Another term related to the notion of guarantee, ἐνέχυρον, is indeed used in the general sense of "guarantee", but also in the sense of a "pledge" (θέντες ἐνέχυρα), unlike ἐγγυάω, as in the following excerpt, from a speech by Demosthenes. In this sense of the word, the guarantee does not concern the assurance of future action, and does not relate to a person, but to an object. Here, ἐνέχυρον effectively means "an asset whose ownership will be transferred to

⁸ Gamqrelize and Ivanov (1995), p. 709. It may also be noted that, in the comparative study of Indo-European terms associated with payment, parallels can be noted in Greek and Sanskrit, according to which certain words designating payment have a clearly negative connotation ("hate, punish, atone for, pay"), see Buck ([1949] 1988), p. 796-797.

⁹ Demosthenes *Against Onetor* 2, 11.

others in case of non-repayment of a given debt", in this case, money or property that the persons in question have deposited with Demophilus:

φιάλην μὲν γὰρ λαβόντες παρὰ τῆς Πολυεύκτου γυναικὸς καὶ θέντες ἐνέχυρα μετὰ χρυσίων, οὐκ ἀνενηνόχασιν κεκομισμένοι ταύτην, ὡς ὑμῖν Δημόφιλος ὁ θέμενος μαρτυρήσει

Having received from Polyeucte's wife a vase, and having placed it as collateral with gold jewels, they did not recover it and did not bring it back, as Demophilus, who received it in deposit, will testify¹⁰.

The etymological link between ἐνέχυρον and "force" or "hand" (Beekes 2010) is perhaps associated with the fact that the security allows the creditor to keep the object in a safe place, to keep it in his own possession. According to Fine, the ἐνεχυρασία, a repossession procedure, was exclusively applicable to movable property (Fine 1951, 84), which implies that the term ἐνέχυρον is not applicable to real property. For Finley, in the case of ἐνέχυρον, the creditor did not retain the use of the object, as in the example above, unlike with other forms of collateralization¹¹.

The word ὑποθήκη designates, on the contrary, a guarantee whose collateral remains in principle in the possession of the borrower, unlike what we have seen above (Finley [1952] 1973, 29). The use of the term in the sense of "guarantee" in the texts generally seems to apply to property that is certainly retained by the borrower, but not real property, at the classical period. Aristotle describes the case of a *polis*, short of resources, that had to obtain grain, after borrowing oil from its inhabitants. Note the use of the notion of mortgage, knowing that Aristotle does not indicate that the oil was left in the possession of the merchants from whom the grain was acquired. In the examples of usage of ὑποθήκη that we have identified, it appears that the word takes the meaning of "what is put as security" rather than "the act of putting as security", which may be closer to what we mean by "mortgage"¹²:

δανεισάντων δὲ μισθωσάμενοι πλοῖα ἀπέστειλαν εἰς τὰ ἐμπόρια, ὅθεν αὐτοῖς ἦκε σῖτος, ὑποθήκης γενομένης τῆς τοῦ ἐλαίου τιμῆς.

¹⁰ Demosthenes *Against Spudias*, 11.

¹¹ See Finley ([1952] 1973), p. 29 et, p. 222-223, "To the best of my knowledge, the verb ἐνεχυράζω and the noun ἐνεχυρασία are used only to indicate execution, never a security transaction".

¹² Fine had noted that the meaning of the word refers to the property itself, as opposed to the verb which seems to rather refer to the contract: see Fine (1951), p. 62.

The owners having made the loan [of oil to the city], they sent ships to the deposits, where the grain was for them, the value of the oil having served as a collateral¹³.

We now turn to the use of terms associated with property valuation. If collateral is supposed to strengthen the ability to recover debt, the question arises of estimating the value of the assets provided as collateral in the first place. The notion of value was understood as something important. In classical Greece, there certainly was a form of theory of value, as developed by Aristotle, but the prices of goods were also carefully watched and regulated to some extent (Chankowski 2020). Debt expressed in currency was nevertheless not equivalent to debt expressed in goods, because an asset became comparable to a sum of money only at the time when it was evaluated (Finley [1952] 1973, 46-47, 53-54). In modern economics, an important aspect that links collateralization to valuation, as a risk factor, is the loan-to-value ratio. There is too little data to have a precise estimate of what was common in ancient Greece, but the few sufficiently detailed examples that remain generally indicate a an LTV around 50% (Leese 2021, 119-120).

The use of valuation-related terms extends well beyond debt, and only a few of their many occurrences are actually associated with borrowing. Among the most common terms relating to the valuation of property, many of them are the result of semantic evolutions in the archaic and classical periods, as the need for such terms expanded. A common term for the price or value of an asset is τιμή. It originally designates honor, the prerogative of the royal condition.

Lysias, in a plea, speaks of a potential loan that relies on a pawned gold cup¹⁴:

[...] Δῆμος γὰρ ὁ Πυριλάμπους, τριηραρχῶν εἰς Κύπρον, ἐδεήθη μου προσελθεῖν αὐτῷ, λέγων ὅτι ἔλαβε μὲν σύμβολον παρὰ βασιλέως τοῦ μεγάλου φιάλην χρυσοῦν, δώσει δ' Ἀριστοφάνει, λαβὼν ἑκκαίδεκα μνᾶς ἐπ' αὐτῇ, ἵν' ἔχοι ἀναλίσκειν εἰς τὴν τριηραρχίαν: ἐπειδὴ δὲ εἰς Κύπρον ἀφίκοιτο, λύσεσθαι ἀποδοῦς εἴκοσι μνᾶς: πολλῶν γὰρ ἀγαθῶν καὶ ἄλλων χρημάτων εὐπορήσειν διὰ τὸ σύμβολον ἐν πάσῃ τῇ ἡπείρῳ. Ἀριστοφάνης τοίνυν ἀκούων μὲν ταῦτα Δήμου, δεομένου δ' ἐμοῦ, μέλλων δ' ἄξειν τὸ χρυσίον, τέτταρας δὲ μνᾶς τόκον λήψεσθαι, οὐκ ἔφη εἶναι, ἀλλ' ὤμνυε καὶ προσδεδανεῖσθαι τοῖς ξένοις ἄλλοθεν [...].

[...] Demos, the son of Ppyrilampos, trierarch in the direction of Cyprus, needed me to go to see him, saying that he had received as a pledge of favor from the great king a golden cup, and that he would give it to Aristophanes, as collateral in exchange for sixteen mines, so that he could dispose of it for his trierarchy. And after he arrived in Cyprus, he would free himself from his obligation by paying twenty mines. Indeed,

¹³ Aristotle *Economics*, II, 1348b20-21.

¹⁴ That passage is referred to and analyzed by Reden (2005), p. 58.

he would be enriched by many advantages and wealth thanks to the pledge of favor throughout the territory. Then Aristophanes, listening to these proposals of Demos, and what I asked of him, about to accede to this gold, and to receive four mines as interest, refused, because he swore that he had borrowed in addition, elsewhere, from foreigners [...]¹⁵.

It may be noted that this complex transaction is described without any strictly debt-specific term being used, without resorting to the precise language elements that we have discussed so far. According to Sitta von Reden, this description raises the question of the qualification of the transaction: an exchange of good practices between friends, or an impersonal exchange¹⁶? Whatever the case, we see that the value of the cup, whether through its material or through its quality of *symbolon*, representing authority, apparently does not come into play. It is not clear whether it derives its collateral quality mainly from being in gold or from what it represents. Estimating the value of assets used as collateral hence does not seem to be a necessary and systematic aspect of a debt transaction.

We have seen that there is a whole range of specific terms for expressing the notion of debt collateral, and describing the nature of the guarantee associated with it. An important aspect of a guarantee in modern economics is the value that can be attached to it, but we have seen that this notion of value was less prevalent in ancient Greece. Ultimately, while modern economics views the collateral of a loan as a financial safety net, the market price of which ensures a minimal recovery, the perception of collateral in ancient Greece seems to be more based on the importance of this guarantee from the debtor's point of view. Thus, this guarantee is not seen as a fungible good, but it is seen through its relationship to the borrower: the guarantee, therefore, would act less as a substitute, a third party, and more as an additional incentive for the debtor.

III

Gains, in the context of debt, come *a priori* from the collection of interest. This statement is, however, to some extent a shortcut. In principle, it is possible to realize a gain on debt even if it does not pay interest: it is enough to acquire the debt in question for an amount less than that owed by the debtor, and then ensure that it is paid in full. In fact, there are no references

¹⁵ Lysias, *On the Property of Aristophanes*, 25-26.

¹⁶ See Reden (2005), p. 58 et seq. Von Reden also points out that the complexity of certain transactions recounted in judicial speeches can be artificial: "law-court speeches put a deliberately ambiguous representation of reality on the screen", p. 53.

to the value of the debt itself, and while the purchase of debt below its face value may have taken place, we have not identified any occurrences of it¹⁷. We will hence focus specifically on interest collection as the only source of profit associated with debt in the archaic and classical periods: we are effectively concentrating on the primary debt market, and not on any secondary market. In some cases, the interest rate on the debt was regulated, underscoring that the *polis* recognized the social importance not only of debt, but also of its cost.

Where does the idea of assessing interest on debt come from? Paul Millett, in his analysis, sees it as compensation for the lack of *philia* between creditor and debtor, which creates the difference between an exchange of gifts and a financial transaction. "In personal transactions between relatives, friends, neighbours and the like, there was an almost automatic expectation of a reciprocal favour at some future date: the loan was part of a wider relationship. In impersonal credit operations, where there was no existing bond between lender and borrower, or desire that a bond should be established, repayment of the loan terminated the association, and interest took the place of the return favour¹⁸." Thus, while in the restricted context of interactions between acquaintances, as between neighbors according to Hesiod, relations were by definition based on *philia*, not all citizens or Athenian metics could have a personal relationship with each other. Therefore, interest is a substitute for reciprocity in an ongoing relationship and creates a relationship of dependency, with the debtor likely unable to lend money to the creditor in the future. Millett relies on the notion of "kinship distance" (Sahlins [1972] 2017, 110-116), and adapts this anthropological notion to Greek *philia*, although it is not necessarily very correlated with family ties (Millett 1991, 110-111).

We know of two families of words that seem to be frequently associated with gain related to debt: ἔργον, and τόκος. These terms, which respectively conjure up work and birth, especially livestock, are cognate to agricultural activity. We will see to what extent this perspective can inform the understanding of the notion of interest.

The term τόκος is considered the most common way of referring to the interest on debt, but has an interesting polysemy, and also means "the child", or "the offspring". The word τόκος is derived from the verb τίκτω meaning "to beget, to have a child". The verb τίκτω, on the other hand, is never understood in the sense of "to generate an interest". We have noted that

¹⁷ At the limit, only the cup mentioned by Lysias in *On the Property of Aristophanes*, 25-26, worth twenty mines but acquired for sixteen in the form of a debt, could be considered as a debt purchase under par.

¹⁸ Millett (1991), p. 99.

lending money at interest could be expressed by a derivative of *τίκτω*, *τοκίζω*, but of relatively infrequent use, the term *δανείζω*, etymologically based on a reciprocal gift relation, being preferred. The link between the notion of "begotten", *τίκτω*, and the interest on the debt is not specific to Greek: it is also noted in Latin, with the root *fe-* from *fenus*, which is found in *fecundus* or *femina*: "interest is as if born of money" (Benveniste 1969a, 1: 188- 189). While it is difficult to say that this link stems from an Indo-European evolution, some plausible explanations can be put forward from the Greek point of view. We can indeed identify different evolutions in the use of terms that reflect the link between the notion of childbirth and that of interest. In pastoral societies, the loan of livestock or pasture could give the right to recover, in return, the young that would have been born during the term of the loan. Pausanias tells a story that mentions this type of arrangement. Even if he does not use the term *τόκος*, but rather that of *κάρπός* (the fruit), more specific to the notion of production or yield, the agreement between the two people clearly relates to the calves that could be born:

καὶ, οὐ γὰρ ἐκέκτητο ἰδίαν γῆν ὡς νομάς ταῖς βουσὶν ἰκανὰς εἶναι, Σπαρτιάτῃ σφᾶς δίδωσιν Εὐαίφνῳ βόσκεισθαι τε ἐν ἐκείνου καὶ μοῖραν εἶναι καὶ Εὐαίφνῳ τοῦ καρποῦ τῶν βοῶν.

And, as he did not possess private land sufficient for the grazing of his oxen, he gave them to a Spartan, Euphanos, to feed on his own, Euphanos having a share of the fruit of the oxen¹⁹.

Another explanation comes from Aristotle: what is begotten is of the same nature as the parent. This perspective underlines, implicitly, the fact that the interest on the debt could have been otherwise different in nature from a quantity of money or goods, and consisted, for example, of a form of obligation of reciprocity. By defining the interest on the debt as an object of the same nature as the debt itself, that is, a monetary object, Aristotle excludes any form of exchange based on gift and counter-gift, if interest is to be paid:

ὅθεν καὶ τοῦνομα τοῦτ' εἴληφεν: ὅμοια γὰρ τὰ τικτόμενα τοῖς γεννῶσιν αὐτὰ ἐστίν, ὁ δὲ τόκος γίνεται νόμισμα ἐκ νομίσματος.

And it is from this that it took its name: for the things that are begotten are themselves similar to those that have begotten them, and the offspring [interest] of money is money²⁰.

¹⁹ Pausanias, IV, 4, 5.

²⁰ Aristotle *Politics*, 1258b, 5.

As we stressed, this proposition can be understood as "the offspring of money is money", or "interest from money is money". Among the many occurrences of the term τόκος in the texts, we find an interesting example with Demosthenes, since he opposes interest (τόκους) to principal (ἀρχαῖον) in the repayment of a maritime loan:

τὸ μὲν γὰρ δάνειον τὸ ἀρχαῖον ἀποδιδόασιν ἡμῖν ὡς σεσωσμένης τῆς νεώς, τοὺς τόκους δ' ἀποστερηῆσαι οἴονται δεῖν ὡς διεφθαρμένης.

They reimburse us for the principal as if the ship were saved, but they consider it necessary to steal the interest from us as if it had been destroyed²¹.

From the distinction made between these two forms of payment by the orator, we can deduce, on the one hand, that repaying the principal of a loan does not release the debtor from repayment of any interest due, and on the other hand that such interest remains an object distinct from the principal. The obligation to pay interest, in this example, does not turn into something of the same nature as the principal. This distinction may be due to the differential treatment between the obligation to pay the principal and the obligation to pay interest in the event of the ship's loss, which is implied by the way the sentence is worded. Thus, it would appear that there is a right to a repayment of the amount lent, different from the right to a profit realized through interest, which supports Millett's argument, namely that interest has a specific role in retributing the non-reciprocity of a relationship. Moreover, on the basis of Lysias' use of those terms, the right to gain appears to be less strong than that to principal payments²². Although interest and principal may still be considered distinct today, commingling them into a single cash flow is at the core of modern valuation theory. The commingling of interest and principal, and swapping one for the other is also one of the cornerstones of structuring techniques in securitization (Gauthier 2020, 269-280).

There are many occurrences of τόκος in inscriptions, and in the classical period, there is no inscription using this term except to refer to debt interest. We give an example below with an Attic inscription, about the small deme of Plotheia, which was studied by Leopold Migeotte:

[...] περὶ μὲν ὅτο ἐστ[ι]

[ψ]ήφισμα δανεισμῶ ἢ τόκος τεταγ[μέ]-

²¹ Demosthenes, *Against Dionysodorus*, 35.

²² It should be noted that in modern finance, if there is indeed a distinction between principal and interest, the legal tools of financial structuring make them fungible, and to consider, effectively, only one indistinct income, see Gauthier (2020), p. 269-280.

νος κατὰ τὸ ψήφισμα δανείζοντα[ς κ]-
α]ἰ ἐσπράττοντας, ὅσον δὲ κατ' ἐν[ιαυ]-
[τ]ὸν δανείζεται δανείζοντας ὅ[στι]-
ς ἂν πλεῖστον τόκον διδῶι, ὃς ἂν [πεί]-
[θ]ῆι τὸς δανείζοντας ἄρχοντα[ς τιμ]-
ήματι ἢ ἐγγυητῆι. [...]

[...] Concerning any loan for which there is a decree or interest already fixed, which is lent and recovered in accordance with the decree; but, for any loan granted annually, lend (to) who will pay the highest interest and who will convince the loan managers by an evaluation (of his property) or by a guarantor²³. [...]

This inscription is interesting because it involves several of the concepts we have discussed earlier, in particular the guarantee and the valuation of goods. We see that the applicable interest rate can be fixed by decree (τόκος τεταγμένος). When this rate is not predetermined, then the city must lend to whomever offers the highest rate. However, isn't the borrower who agrees to pay the highest rate also the one who needs the funds the most, and therefore the one who runs the highest risk of not repaying? The requirement of a guarantee or valuation of the borrower's assets would then appear to reduce the risk. This economic reasoning, which may seem logical, is not necessarily applicable to the context of ancient Greece. Indeed, the reason why it may seem immediately intuitive that the borrower the most likely to pay a high interest rate is also the one who precisely is the most likely not to repay the debt, is due to two factors that are in fact specific to the contemporary world: the fungibility of goods and the productivity of investments. The fact that goods are liquid and marketable, which is very largely the case in a modern economy, implies that it is relatively easy to liquidate assets when money is needed. In a much less liquid and financial economy like that of fifth-century Greece, it is conceivable that it will not be possible to quickly obtain money from one's assets, regardless of the total net value of the assets in question. In this case, paying a high interest rate to have funds immediately is basically just a liquidity cost, or the cost of having poor *philoï*, which is not related to the borrower's credit risk. Second, using a loan to finance productive investments, an activity that was not common in ancient Greece²⁴, effectively passes the risk taken by the borrower on to the lender. A risky investment, which promises a

²³ IG I³, 258 = IG I¹, 1172 = OR 159, l. 15-22. Translation derived from the one by Migeotte ([2009] 2015).

²⁴ See in particular Leese (2021), pp. 127-135, who describes some specific cases of bankers specializing in high-yield investments, and stresses how rare this was.

high return, allows one to pay a higher interest rate on one's financing. It therefore seems reasonable to consider that the compensation of the loans, in the context in question, was not strictly speaking a reflection of the economic risk of the borrower. Consequently, fixing that rate does not prevent the attributes of each loan from reflecting the risk associated with the situation, since the risk in question is not *a priori* the decisive factor affecting the establishment of the interest rate.

The word for "labor", ἔργον, can also refer to debt service. According to Raymond Descat, in the archaic period, "The *ergon* means the work not considered in a process of elaboration or production, but in the most objectivized form, the result, the work²⁵." This term is opposed to that of πονός, which relates to work from the point of view of punishment. It may also be noted that the term which specifically designates the remuneration of labor, μισθός, does not take on a meaning linked to the remuneration of debt with interest. Thus, among these terms associated with the notion of work, even if πονός means owing something, and μισθός remuneration, only ἔργον, more specifically associated with the fruit of labor itself, is used to refer to interest on debt. The term ἐργασία, less common than ἔργον, means the result of work, or the gain or profit procured by an activity, and can express "the action of producing interest". We have an example in a somewhat complex operation described by Demosthenes:

μισθούμενος οὖν ὄδε τὴν ἐργασίαν αὐτὴν τῆς τραπεζῆς καὶ τὰς παρακαταθήκας λαμβάνων, ὁρῶν ὅτι, μήπω τῆς πολιτείας αὐτῷ παρ' ὑμῖν οὔσης, οὐχ οἷός τ' ἔσοι' εἰσπράττειν ὅσα Πασίων ἐπὶ γῆ καὶ συνοικίαις δεδανεικῶς ἦν, εἴλετο μᾶλλον αὐτὸν τὸν Πασίωνα χρήστην ἔχειν τούτων τῶν χρημάτων ἢ τοὺς ἄλλους χρήστας [...]

The latter, thus renting the very proceeds of the bank and assuming the deposits, seeing that, as he had not yet acquired citizenship from you, he would not be able to recover all that Pasion had lent at interest collateralized by land or buildings, he chose to have Pasion himself as debtor of these goods rather than the other debtors [...]²⁶.

It should be noted that a *priori*, the notion of gain or profit expressed by ἐργασία could be understood as the result of a "commercial activity". There is a difference between the profit associated with a banking activity and the profit associated with owning a receivable. In the first case, in fact, it is the net result of the activity, which combines both being a creditor, and collecting interest, and being a debtor through the remuneration of deposits or loans made to

²⁵ Descat (1999), p. 12.

²⁶ Demosthenes *For Phormio*, 6.

the banker²⁷. Possession of a receivable involves only income and as such it is not a commercial activity. Demosthenes, in this example, does not use the term ἐργασία to describe banking activity in general, since he specifies καὶ τὰς παρακαταθήκας λαμβάνων, and therefore takes into account the liabilities associated with financing the bank's activity, as something separate from the assets. In this case, ἐργασία therefore refers only to the interest collected by the banker on the claims he holds. We can also point out that μισθέω, as we have already noted, does not take on any meaning associated with collecting interest, but rather refers to rent payment, as we see here for the "leasing" of an entire banking activity.

The following excerpt from a discourse by Isaeus gives us an example of the use of the term ἔργον to refer to the interest collected, in contrast with τόκος, designating here the fact that debt generates interest.

[...] χρέα δ' ἐπὶ τόκοις ὀφειλόμενα περὶ τετρακισχιλίας, ὧν τὸ ἔργον ἐπ' ἑννέα ὀβολοῖς ἑπτακόσια καὶ εἴκοσι δραχμαὶ γίνονται τοῦ ἐνιαυτοῦ ἑκάστου.

[...] also around four thousand [drachmas] of interest-bearing debts which were due, the yield, at nine obols [per mine per month], is seven hundred and twenty drachmas on each birthday²⁸.

In English, in everyday language, "interest", can refer to the amount of money that must be paid regularly, as well as the rate at which this amount is calculated, two notions that the terms *tokos* and *ergon* or *ergasia* therefore seem to distinguish when used in opposition. In the example above, we can compare ἐπὶ τόκοις ("at interest") and ἐπ' ἑννέα ὀβολοῖς ("at nine obols"), which specifies the rate at which these interests are calculated²⁹. The yield, ἔργον, corresponds to the effective total amount in accordance with the meaning of the word we emphasized earlier, the notion of the result of work.

If τόκος or ἐργασία can designate yield on debt or its rate in general, there are specific terms to express the exact value of this rate, of which Robert Whiston proposed a detailed summary (Whiston 1875). We supplemented the terms identified by Whiston through dictionaries, and identified a dozen of them in total in the texts and inscriptions for the period of interest to us. They are all built on certain fundamental invariant principles. These interest rates are expressed either according to the amount that must be paid per month, or according to the

²⁷ See, for example, the summary description of Pasion's assets and activity in Leese (2021), p. 117-124.

²⁸ Isaeus, *On the Estate of Hagnias*, 42.

²⁹ This rate corresponds to 18% per year.

total amount that must be paid annually. Each of the words which designate these rates expresses simply and clearly the manner in which the amount of interest is to be calculated according to the amount borrowed: for example, the terms διδραχμῖος or ἐπιώβολος designate a payment of two drachmas, implicitly per mine, and one obol, implicitly per drachma. In the first case, the resulting rate being only 2%, it is also implicitly obvious that it is a monthly payment. In many cases, as in the example from the *Legacy of Hagnias* of Isaeus, the interest rate is expressed in a few words, such as ἐπὶ ἑννέα ὀβολοῖς.

The existence of specific terms to express each possible level of an interest rate may seem strange compared to modern uses, since it prevents, *a priori*, formulating a rate in all generality, in a way that allows it to be adjusted precisely according to the circumstances of the loan and the borrower. There was thus a "menu" of easily expressible interest rates from which one had to choose the most appropriate one for a given situation. Setting a fixed rate, such as the one in the inscription *IG I³, 258* which we commented earlier, pushes this logic of pre-selection of possible rates to the extreme. If, in the decision to grant a loan, the precise interest rate is not, as in the contemporary world, the main adjustment variable, then the guarantees provided and the decision itself to agree to lend, were presumably the only adjustment variables. The granularity in the setting of interest rates may go hand in hand with the absence of evidence of a secondary debt market, which we highlighted earlier. Indeed, in order to evaluate debt after it has been issued, it would be necessary to be able to specify quite precisely, at that time, at what rate the borrower would be able to borrow, in their current situation. If this rate always remains essentially the same over time, then there cannot be any change debt value, and hence no secondary market.

Expressing the gains associated with debt in archaic and classical Greece, gains that would arise from the non-reciprocity of a financial relationship, seems to be based on material concepts, associated with farm work. The gains associated with debt are thus lexicologically linked to man's productive activity. In the hesiodic context, the exchange of good practices, gifts and counter-gifts between neighbors, was part of agricultural activity. Perhaps the lexical field of debt yield can be conceived as the logical extension of these reciprocal relations.

IV

Not returning what is due can have unpleasant consequences: for example, in Athens, before Solon's reforms, default could result in slavery, of the debtor or his family. This link between wealth and freedom can be related to traditions of the ancient Near East (Blok and Krul 2017). However, default was probably a fairly common reality in ancient Greece in the classical period, and especially in Athens, since many speeches from the orators at the beginning of the fourth century concerned debtors who had not repaid their creditors. Hundreds of mortgage steles, mostly found in Attica, also tell us that collateralization was widespread, signaling a likely desire on the part of creditors to limit the risk of default and losses in the event of default. In order to better understand how the Greeks viewed the tensions between borrower and creditor, we will first look at the definition and expression of default, then at the modalities of recovery, and finally at the potential cancellation of debt.

Terms that specifically refer to default or to a delay in repayment are quite rare. In most cases, this notion is periphrastically expressed, as "not paying what is due". There are also no occurrences of these terms in inscriptions, which may indicate that the mention of payment defaults in epigraphy would always be expressed by a periphrase. In Aristophanes's *Clouds*, one of Strepsiades' creditors threatens him:

σὺ δὲ νῆ τὸν Ἑρμῆν προσκεκλήσεσθαί γέ μοι, / εἰ μὴ ᾽ποδώσεις τὰργύριον.

And you, by Hermes, it seems to me that you will be sued by me, if you do not return the money³⁰.

The default of payment, which would lead this creditor to sue Strepsiades (προσκαλέω), is expressed here simply as τὸν ἀργύριον οὐκ ἀποδίδωμι, that is to say "not to return or repay the money". It may be noted that, as long as the creditor asks his debtor to repay him, it is because there is a chance of receiving the payment in question, and therefore it is not yet a process of forced recovery. This is not yet a default *stricto sensu*, but a delay.

The term ὑπερημερία and the associated adjective ὑπερήμερος reflect, by their etymology, the fact of exceeding the agreed-upon day for repayment, and, by extension, the fact of being in default. In the following excerpt from Demosthenes, we translate by "payment default" the adjective noun ὑπερήμερον:

³⁰ Aristophanes *The Clouds*, 1275-1276.

οὐδείς δὲ πάποθ' οὕτω πικρῶς οὐδ' ὑπερήμερον εἰσέπραξεν ὡς σὺ τοὺς ὀφείλοντας τοὺς τόκους.

No one has ever collected payment defaults as rigorously as you recover the interest of your debtors³¹.

Demosthenes criticised the accused for demanding payment of interest even more expressly than was normal for late payment recovery. We have seen, previously, that there was a distinction between the nature of interest and that of principal. In the contrast he establishes, Demosthenes highlights the ruthlessness of Stephanos, precisely because the unpaid principal seems, implicitly for the Athenian judges, fundamentally more payable than interest. The representation of the one who forces a debtor to pay what is due is often negative, and this excerpt from Demosthenes attests to this. In the same vein, Theophrastus uses a very similar formulation, with the noun ὑπερημερίαν, and the verb πράττω:

δεινὸς δὲ καὶ ὑπερημερίαν πράττει καὶ τόκον τόκου.

He is also liable to pursue overdue debtors and charge compound interest³².

In his description, Theophrastus portrays a character who "demands late payments" and colors him negatively because he also demands interest on interest (τόκον τόκου). In view of the way in which interest is calculated, as we have seen, determining in practice a fraction of a few drachmas or obols must not be easy, unless the interest in question is very high.

Unpaid or late amounts turn into defaults when the creditor seeks to recover what is owed to him without addressing the debtor directly, but by resorting to other approaches: through the courts, or through the seizure of collateralized property. However, debt recovery in Antiquity was recognized as not necessarily easy, especially from a socially superior person. The use of collateral in the form of collateralized property, as we have seen, reduced the risk associated with the loan. We can clarify the role that this collateralization plays in recovery by examining the rather particular situation of a city that did not repay its creditors, the *polis* of Kyme, according to Strabo:

ἔστι δὲ καὶ ἄλλος λόγος, ὅτι δανεισάμενοι χρήματα δημοσίᾳ τὰς στοὰς ὑπέθεντο, εἴτ' οὐκ ἀποδιδόντες κατὰ τὴν ὠρισμένην ἡμέραν εἴργοντο τῶν περιπάτων: ὅτε μέντοι ὄμβρος εἴη, κατ' αἰδῶ τινα κηρύττοιεν οἱ δανεισταί, κελεύοντες ὑπὸ τὰς στοὰς ὑπέρχεσθαι: τοῦ δὲ κήρυκος οὕτω φθεγγομένου 'ὑπὸ τὰς στοὰς ὑπέλθετε.'

³¹ Demosthenes *Against Stephanus I*, 70.

³² Theophrastus *Characters*, X, 10. The translation is from Theophrastus (2004).

ἐκπεσεῖν λόγον ὡς Κυμαίων οὐκ αἰσθανομένων ὡς ἐν τοῖς ὄμβροις ὑπὸ τὰς στοὰς ὑπελθετέον, ἂν μὴ σημάνῃ τις αὐτοῖς διὰ κηρύγματος.

There is yet another anecdote, according to which, by borrowing money in a public capacity, they had mortgaged their stoas [covered porticoes]; Then, as they did not repay on the appointed day, they were forbidden to walk there. However, when there was a storm, the creditors, out of a guilty conscience in a way, had the herald announce that they invited them to take shelter under the stoas. And that's because the herald shouted: "Go under the stoas! " that the anecdote arose that the Kymeans did not understand that they should, during storms, go under the porticoes, unless they were told so by the voice of the herald³³.

In this story, Strabo, to describe default, uses his definition: οὐκ ἀποδιδόντες κατὰ τὴν ὀρισμένην ἡμέραν, the fact of having passed the maturity. Here, the non-compliance with a maturity clause ends up giving the creditor rights to property that had been mortgaged. Note the use of the term ὑπέθεντο in the sense of "mortgage" in the text. It was indeed a mortgage in the sense we analyzed previously, since the property that serves as collateral remained in the possession of the city, at least until its default.

Strabo's story also allows us to observe two potential functions of collateralization: on the one hand, the ability to get hold of a valuable asset, and on the other hand, the ability to exert pressure on the borrower. The first function of collateralization allows the creditor to become the owner of the collateral, or at least to be able to control it, in the event of default. Once default is established, effectively implying that it will not be possible for the creditor to recover what is due to him by the debtor, he can still sell the property in question, or also receive its production, for example if it is a mine or a farm. The guarantee, in this case, plays an economic role of diversification, in the sense that it largely isolates the creditor from the risk that the borrower will not ultimately repay the debt. The second function of collateralization allows the creditor to deny the debtor access to the collateral. This is a consequence of the rights that the creditor acquires in the event of default, and is, in principle, an incentive for the debtor to repay the debt. This second function does not, however, help through diversification, and it is in fact effective only before the default occurs. In the case of Kyme's creditors, whether they were citizens or metics (without property rights), the first function of collateralization cannot be fulfilled by a guarantee relating to a stoa: the stoa in question cannot be moved, and it only has value for the city in which it is built: it is impossible to sell it to a third party. Only the second function of collateralization, that of

³³ Strabo, *Geography*, XIII, 3, 6. The translation is from Migeotte ([1980] 2011), p. 49. Strabo wrote well after the classical period.

exerting pressure relative to the use of the property, is applicable here. But this form of pressure does nothing to help the Kymeans in obtaining the money they owe creditors faster, leading to the situation depicted in the text, which can drag on as long as the city does not have resources available to repay its creditors.

We can find a number of words that convey the notion of debt recovery. The most commonly used terms are *πράττω* (with various compounds), all of which, however, are polysemic. Some words of the family of *ἐνεχυραζῶ*, which we have already discussed in the context of collateralization, can also express recovery.

In the following example, Demosthenes describes debt recovery, emphasizing that it took place while the debtor was present. The term *ἐνεχυρασία* means the recovery itself, which is "made" (*ποιέω*): as Finley had pointed out, it expresses indeed the *execution* of a guarantee. One can emphasize the distinction that actually appears between repossession when the debtor is present, *τὴν ἐνεχυρασίαν ποιέω*, and repossession when he is absent, *τί ἀρπάζω*, which according to the text would not be a proper repossession. The presence of the debtor, who thus recognizes the reason why some assets are taken, transforms what would otherwise be theft into licit repossession.

καὶ ἐπειδὴ οὐ κατέλαβον αὐτὸν ἔνδον, οὐχ ἀρπάσας ὄχλομην οὐδέν, ἀλλὰ μετελθεῖν ἐκέλευσα αὐτόν, καὶ παρόντος, οὐκ ἀπόντος, τὴν ἐνεχυρασίαν ἐποίησάμην

Not finding him at home, I did not remove anything, I sent for him, I proceeded to repossess it in his presence, not in his absence³⁴.

The verb *εἰσπράττω* can mean the collection of delinquent debt; but it can also apply to money itself, as shown in the example below, also taken from Demosthenes. It refers to the sale of a ship, which had been mortgaged, after it was repossessed. In this case, the concept of recovery applies to the amount of forty mines (*εἰσέπραξα τὸ ἀργύριον*).

πάντα δὲ ποιήσας καὶ εἰς πᾶσαν ἀπέχθειαν τούτῳ ἐλθὼν, μόλις εἰσέπραξα τὸ ἀργύριον, πραθείσης τῆς νεῶς τετταράκοντα μνῶν, ὅσουπερ ἡ θέσις ἦν.

Having done everything and having gone through so much enmity on his part, I scarcely recovered my money, the ship having sold for forty mines, as much as the loan was³⁵.

³⁴ Demosthenes *Against Evergus And Mnesibulus*, 80.

³⁵ Demosthenes *Against Apaturius*, 12.

We know that the words of the family of ἐνεχυράζω, in the context of collateralization, refer to a guarantee kept by the lender. The use of these terms in the context of recovery therefore seems to conjure up the recovery of an asset, that is placing it under the control of the creditor as if it had been collateral remaining in his possession from the outset, more than the idea of a resale as in the text above. Similarly, the use of εἰσπράττω for recovery, when this verb also simply translates the fact of demanding payment, seems to insist on the repossession itself, rather than on the outcome of that recovery, which would be, from a strict economic point of view, the resale of the property. The words relating to recovery that we have examined here therefore seem to highlight the act of repossession, as a threat, and therefore fall within the first function of collateralization that we discussed above, rather than the second.

when the debtor runs into difficulties of payment, one possible outcome is that the claim is simply abandoned. The most famous case in Greek history is probably that of *seisachtheia*: this term, used since at least the 4th century, refers to debt reduction or cancellation, which is said to have been implemented by Solon at the beginning of the 6th century (Osborne 2006). The notion of debt cancellation is strongly associated with that of social conflict in the sources (Renger and Crawford 2006). The cancellation of their debt would have allowed the hektemores, farmers worked at repaying what they owed, to exit the debt bondage they were in. However there are few factual elements, only a few fragments. Solon is also said to have abolished debt slavery, which further compounded the liberating effect of debt cancellation, but the true extent of this prohibition is still widely debated. Debt cancellation can be seen as a systematic response to social problems, and four examples from the archaic period have been noted in the tradition: Athens with the *σεισάχθεια*, although the question of whether it was debt or interest is still debated³⁶, and also Megara, Croton and Cumae. In the case of Megara, according to Plutarch, after the people seized power, they also demanded that the interest paid by the borrowers be returned to them (Cecchet 2018). Even if one can question the historicity of these episodes, they emphasize the importance of the notion of debt cancellation as a tool of social regulation in the perception of the ancients who wrote about it.

The terms that can express debt cancellation are in fact quite numerous, but if we exclude references relating to the *seisachtheia*, they are quite polysemic and, in the chronological bounds we have set, they have not been used in our corpus to signify debt cancellation. Thus,

³⁶ See, for example, Harris (2002) which shows that Solon would probably have abolished enslavement but not bondage for debts.

we found no mention of private debt cancellation, which would be made by a particular creditor for the benefit of a particular debtor. The use of a term like ἀποκοπή, to designate debt cancellation or abandonment, appears only in a general sense, comparable to that of Solon's *seisachtheia*, as in the following extract from Andocides³⁷:

τὰς μὲν δίκας, ὧ ἄνδρες, καὶ τὰς διαίτας ἐποιήσατε κυρίας εἶναι, ὅποσαι ἐν δημοκρατουμένη τῇ πόλει ἐγένοντο, ὅπως μήτε χρεῶν ἀποκοπαὶ εἶεν μήτε δίκαι ἀνάδικοι γίγνοιτο, ἀλλὰ τῶν ἰδίων συμβολαίων αἱ πράξεις εἶεν

You have ensured, gentlemen, that all the judgments and arbitrations that took place in the democratic city are valid, so that there is no cancellation of debt and that judgments are not quashed, but that private acts are valid³⁸.

Debt cancellation, unlike repossession and recovery, does not appear to be a private act between creditor and debtor, but a radical action, and is therefore rather a matter of managing social tensions. References to annulment in the archaic and classical periods are mostly related to comments about Solon, as in *The Constitution of Athens*, or to speeches by orators who conjured up the judges' oath, precisely not to cancel debts. Our analysis also pointed out that effective debt collection, if it can take place, primarily served as an incentive for the debtor to pay, rather than as a means of recovering money in the event of default.

V

While there may be many invariants in human experience, including in the relationship to debt, our analysis showed that debt perception in ancient Greece was not based on the notion of monetary value, which is a fundamental distinction with the modern world. Indeed, we have seen that the expression of collateralization is based on the incentive it provides for the debtor to repay what is due, much more than on the idea of the resale value of the property. Thus, it is the intrinsic value of the asset to the debtor, not its "market value" from the creditor's perspective that is relevant. Similarly, the notion of gain associated with debt is not based on the value of that debt, but on the interest collected, which is also treated as being of a different nature from the principal, which excludes fungibility of the two into a common value notion. Finally, debt cancellation or reduction does not stem from an economic incentive to optimize recovery from the point of view of the creditor, but from a common, social act at the level of the *polis*. A fundamentals aspect of the modern treatment of debt

³⁷ We have also noted a very similar expression in Demosthenes, *Against Timocrates*, 149.

³⁸ Andocides, *On the Mysteries*, 88.

could be summarized with this common saying on the bond markets: "there are no bad bonds, only bad prices". We can see how, based on our analysis, this could not be applicable to how debt was understood in ancient Greece.

One definitely could not speak of any financialization with regard to debt in ancient Greece, and the fungibility between monetary value and debt relationship would be meaningless for the Ancients. Does this mean that the Greeks had an archaic view of debt, in the sense of a pre-monetary relationship, an exchange of gifts and counter-gifts? We have seen that the use of words associated with debt tends to support the idea that interest payments function as a substitute for the reciprocity of exchanges, implying the existence of impersonal exchanges. Rather than an evolution, which we would see from a diachronic perspective, it seems that we must consider the relationship to debt in synchrony: the different mechanisms of relationship existed at the same time. Interest-free private loans, *eranoi*, even though they were part of relationships between relatives, were nevertheless considered as assets.

Ancient Sources

Andocides, & Antiphon. 1968. *Minor Attic Orators, Volume I: Antiphon, Andocides*. Translated by Kenneth J. Maidment. Vol. 1. 2 vols. Cambridge: Harvard University Press.

Aristophanes. 1907. *Aristophanis Comoediae*. Edited by Frederic W. Hall & William M. Geldart. Vol. 2. 2 vols. Oxford: Clarendon Press.

Aristotle. 1935. *Aristotle in 23 Volumes*. Translated by Harris Rackham. Vol. 18. 23 vols. Cambridge: Harvard University Press.

———. 1957. *Aristotle's Politica*. Edited by William D. Ross. Oxford: Clarendon Press.

Demosthenes. 1903. *Demosthenis Orationes*. Edited by Samuel H. Butcher & William Rennie. 3 vols. Oxford: Oxford University Press.

———. 1936. *Private Orations: XXVII-XL*. Translated by Augustus T. Murray. Vol. 4. 7 vols. Loeb Classical Library 318. Cambridge: Harvard University Press.

Hesiod. 1914. *The Homeric Hymns and Homeric*. Translated by Hugh G. Evelyn-White. Cambridge: Harvard University Press.

‘IG I³ 258, Attic Inscriptions Online’. n.d. Attic Inscriptions Online.
<https://www.atticinscriptions.com/inscription/IGI3/258>.

Isaeus. 1962. *Isaeus with an English Translation*. Translated by Edward S. Forster. Cambridge: Harvard University Press.

———. 2007. *Isaeus*. Translated by Michael Edwards. *The Oratory of Classical Greece* 11. Austin: University of Texas Press.

Lysias. 1930. *Lysias with an English Translation*. Translated by Walter R. M. Lamb. Cambridge: Harvard University Press.

Pausanias. 1903. *Pausaniae Graeciae Descriptio*. Edited by Carl Gottfried Sibelis. 3 vols. Leipzig: Teubner.

Plato. 1903. *Platonis Opera*. Edited by John Burnet. 5 vols. Oxford: Oxford University Press.

Strabo. 1877. *Geographica*. Edited by August Meineke. Leipzig: Teubner.

Theophrastes. 2004. *Characters*. Translated by James Diggle. *Cambridge Classical Texts and Commentaries* 41. New York: Cambridge University Press.

References

- Amemiya, Takeshi.** 2007. *Economy and Economics of Ancient Greece*. Routledge Explorations in Economic History 33. London: Routledge.
- Backhaus, Jürgen Georg, ed.** 2012. *Handbook of the History of Economic Thought: Insights on the Founders of Modern Economics*. The European Heritage in Economics and the Social Sciences. New York: Springer.
- Bailly, Anatole.** (1894) 2020. *Dictionnaire grec-français*. Edited by Gérard Gréco. Paris: Gérard Gréco.
- Beekes, Robert.** 2010. *Etymological Dictionary of Greek*. 2 vols. Leiden Indo-European Etymological Dictionary Series 10. Leiden: Brill.
- Benveniste, Émile.** 1969a. *Le vocabulaire des institutions indo-européennes : économie, parenté, société*. Vol. 1. 2 vols. Paris: Éditions de Minuit.
- . 1969b. *Le vocabulaire des institutions indo-européennes : pouvoir, droit, religion*. Vol. 2. 2 vols. Paris: Éditions de Minuit.
- Blok, Josine, & Julia Krul.** 2017. 'Debt and Its Aftermath: The Near Eastern Background to Solon's *Seisachtheia*'. *Hesperia: The Journal of the American School of Classical Studies at Athens* 86 (4): 607–643.
- Bresson, Alain.** 2016. *The Making of the Ancient Greek Economy: Institutions, Markets, and Growth in the City-States*. Translated by Steven Rendall. Princeton: Princeton University Press.
- Buck, Carl Darling.** (1949) 1988. *A Dictionary of Selected Synonyms in the Principal Indo-European Languages: A Contribution to the History of Ideas*. Chicago: University of Chicago Press.
- Cecchet, Lucia.** 2018. 'Debt Cancellation in the Classical and Hellenistic *Poleis* : Between Demagogy and Crisis Management'. *The European Legacy* 23 (1–2): 127–148.
- Chankowski, Véronique.** 2020. 'Juste prix, prix libres et prix fixés dans les cités du monde grec antique : histoire d'un malentendu'. In *Les infortunes du juste prix : marchés, justice sociale et bien commun de l'Antiquité à nos jours*, edited by Véronique Chankowski, Clément Lenoble, & Jérôme Maucourant, 25–68. Documents. Lormont: Le Bord de l'eau.
- Chantraine, Pierre.** (1968) 1999. *Dictionnaire étymologique de la langue grecque : histoire des mots*. 2nd ed. Paris: Klincksieck.
- Dermineur, Elise M.** 2019. 'Peer-to-Peer Lending in Pre-Industrial France'. *Financial History Review* 26 (3): 359–388.
- Descat, Raymond.** 1999. 'La représentation du travail dans la société grecque'. In *Le travail : recherches historiques, table ronde de Besançon, 14 et 15 novembre 1997*, 9–22. ISTA 698. Besançon: Institut des Sciences et Techniques de l'Antiquité.

- Diggle, James.** 2021. *The Cambridge Greek Lexicon*. 2 vols. New York: Cambridge University Press.
- Ernout, Alfred, Antoine Meillet, & Jacques André.** (1932) 2001. *Dictionnaire étymologique de la langue latine : histoire des mots*. 4th ed. Paris: Klincksieck.
- Fine, John V. A.** 1951. *Horoi: Studies in Mortgage, Real Security, and Land Tenure in Ancient Athens*. The American Excavations in the Athenian Agora 9. Athens: American School of Classical Studies At Athens.
- Finley, Moses I.** (1952) 1973. *Studies in Land and Credit in Ancient Athens, 500-200 B.C.: The Horos-Inscriptions*. New York: Arno Press.
- Gamqrelize, Tomas, & Vjaceslav V. Ivanov.** 1995. *Indo-European and the Indo-Europeans: A Reconstruction and Historical Analysis of a Proto-Language and a Proto-Culture*. Edited by Werner Winter. Translated by Johanna Nichols. Trends in Linguistics 80. Berlin: De Gruyter.
- Gauthier, Laurent.** 2020. *Securitization Economics: Deconstructing the Economic Foundations of Asset Securitization*. Springer Texts in Business and Economics. Cham: Springer International Publishing.
- Harris, Edward M.** 2002. 'Did Solon Abolish Debt-Bondage?' *Classical Quarterly* 52 (2): 415–430.
- Hobson, Matthew S.** 2014. 'A Historiography of the Study of the Roman Economy: Economic Growth, Development, and Neoliberalism'. *Theoretical Roman Archaeology Journal* 2013: 11–26.
- Johnson, Kyle P., Patrick J. Burns, John Stewart, & Todd Cook.** 2019. 'The Classical Language Toolkit'. 2019. <http://cltk.org>.
- Leese, Michael.** 2021. *Making Money in Ancient Athens*. Ann Arbor: University of Michigan Press.
- Liddell, Henry George, Robert Scott, Henry Stuart Jones, & Roderick McKenzie.** (1940) 1996. *A Greek-English Lexicon: With a Revised Supplement*. 9th ed. Oxford: Clarendon Press.
- Lyttkens, Carl Hampus.** 2013. *Economic Analysis of Institutional Change in Ancient Greece: Politics, Taxation and Rational Behaviour*. Routledge Explorations in Economic History 58. London: Routledge.
- Macleod, Colin W.** 1982. 'Politics and the *Oresteia*'. *The Journal of Hellenic Studies* 102: 124–144.
- Mauss, Marcel.** (1925) 2007. *Essai sur le don : forme et raison de l'échange dans les sociétés archaïques*. Quadrige Grands Textes. Paris: Presses Universitaires de France.
- Migeotte, Léopold.** (1980) 2011. 'Engagement et saisie de biens publics dans les cités grecques'. In *Économie et finances publiques des cités grecques, volume I : choix d'articles publiés de 1976 à 2001*, 1:49–59. Collection de la Maison de l'Orient méditerranéen 44. Lyon: Maison de l'Orient et de la Méditerranée Jean Pouilloux.

———. 2014. *Les finances des cités grecques : aux périodes classique et hellénistique*. Epigraphica 8. Paris: Les Belles Lettres.

———. (2009) 2015. 'Pratiques financières dans un dème attique à la période classique : l'inscription de Plôtheia IG I³, 258'. In *Économie et finances publiques des cités grecques, volume II : choix d'articles publiés de 2002 à 2014*, 2:135–149. Collection de la Maison de l'Orient méditerranéen 54. Lyon: Maison de l'Orient et de la Méditerranée Jean Pouilloux.

Millett, Paul. 1991. *Lending and Borrowing in Ancient Athens*. Cambridge: Cambridge University Press.

Monier-Williams, Monier. (1899) 2008. *Sanskrit-English Dictionary: Etymologically and Philologically Arranged, with Special Reference to Cognate Indo-European Languages*. Edited by Ishwar Chandra. Nouvelle édition recomposée. Parimal Sanskrit 98. Delhi: Parimal Publications.

Morley, Neville. 1998. 'Political Economy and Classical Antiquity'. *Journal of the History of Ideas* 59 (1): 95–114.

Ober, Josiah. 2018. 'Introduction'. In *Ancient Greek History and Contemporary Social Science*, edited by Mirko Canevaro, Andrew Erskine, Benjamin D. Gray, & Josiah Ober, 1–12. Edinburgh University Press.

Osborne, Robin. 2006. 'Seisachtheia'. In *Brill's New Pauly*, edited by Hubert Cancik, Helmuth Schneider, Christine F. Salazar, Manfred Landfester, & Francis G. Gentry. En ligne: Brill. <https://referenceworks.brillonline.com/entries/brill-s-new-pauly/seisachtheia-e1107070>.

Pantelia, Maria. 2020. 'Thesaurus Linguae Graecae'. 2020. <http://stephanus.tlg.uci.edu>.

'PHI Greek Inscriptions'. n.d. <https://inscriptions.packhum.org/>.

Poitras, Geoffrey. 2021. 'Origins of Arbitrage'. *Financial History Review* 28 (1): 96–123.

Reden, Sitta von. 2005. 'Demos' *Phialê* and the Rhetoric of Money in Fourth-Century Athens'. In *Money, Labour and Land: Approaches to the Economics of Ancient Greece*, edited by Paul Cartledge, Edward E. Cohen, & Lin Foxhall, 52–66. London: Routledge.

Renger, Johannes (Berlin), & Michael Hewson (London) Crawford. 2006. 'Debt, Debt Redemption'. In *Brill's New Pauly*. Brill. https://referenceworks.brillonline.com/entries/brill-s-new-pauly/debt-debt-redemption-e1105040?s.num=0&s.f.s2_parent=s.f.book.brill-s-new-pauly&s.q=debt.

Sahlins, Marshall. (1972) 2017. *Stone Age Economics*. 2nd ed. London: Routledge.

Samuels, Warren J., Jeff Biddle, & John Bryan Davis, eds. 2003. *A Companion to the History of Economic Thought*. Blackwell Companions to Contemporary Economics. Malden: Blackwell Publishing.

Schefold, Bertram. 1997. 'Reflections on Ancient Economic Thought in Greek Poetry'. In *Ancient Economic Thought*, edited by Betsy Price, 1:95–142. Routledge Study in the History of Economics 13. London: Routledge.

Tauber, James. 2020. ‘Working with the Diorisis Ancient Greek Corpus’. *J. K. Tauber* (blog). 20 January 2020. <https://jktauber.com/2020/01/20/working-with-the-diorisis-ancient-greek-corpus/>.

———. 2021. ‘Jtauber/Diorisis’. Exploring the Diorisis Ancient Greek Corpus. 2021. <https://github.com/jtauber/diorisis>.

Vatri, Alessandro, & Barbara McGillivray. 2018a. ‘The Diorisis Ancient Greek Corpus’. 2 May 2018.

https://figshare.com/articles/dataset/The_Diorisis_Ancient_Greek_Corpus/6187256.

———. 2018b. ‘The Diorisis Ancient Greek Corpus: Linguistics and Literature’. *Research Data Journal for the Humanities and Social Sciences* 3 (1): 55–65.

———. 2020. ‘Alevatri/Diorisis’. 6 March 2020. <https://github.com/alevatri/diorisis>.

Whiston, Robert. 1875. ‘Fenus’. In *A Dictionary of Greek and Roman Antiquity*, edited by William Smith, 524–528. London: John Murray.

https://penelope.uchicago.edu/Thayer/e/roman/texts/secondary/smigra*/fenus.html.