

Review and extension of Bhattacharyya's *Modern Accounting Concepts in Kautilya's Arthaśāstra*

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Abstract

This is a discussion of the theoretical aspects of accounting as they emerged in India during the Maurya period (c. 321 BC to c. 184 BC) in Kautilya's *Arthaśāstra* (c. 300 BC) – the very first known treatise to deal with accounting aspects in the history of our discipline. Pertinent evidence can be found in an article by Choudhury (1982) and in Bhattacharyya's (1988) book, *Modern Accounting Concepts in Kautilya's Arthaśāstra*. This book, hardly known in Western accounting circles, claims that Kautilya's ancient treatise anticipated a series of 'modern' accounting concepts. These claims are here examined on the basis of the two standard translations of the *Arthaśāstra*, the original one by Shamasastri ([1915] 1967) and an extended one by Kangle (1963). Apart from some background material, the focus of this paper is on three aspects: (1) Kautilya's various types of income (including aspects of accounting for price changes, the distinction between real and fictitious holding gains, etc.) and their possible relation to modern concepts; (2) his classification of expenditures or costs (including possibly fixed vs variable costs); and (3) his notions of capital. These aspects indicate a surprisingly long-standing need for and possible use of relatively sophisticated accounting concepts. Thus Choudhury and, particularly, Bhattacharyya must be praised for drawing the attention of Western accountants to different aspects of an important ancient treatise. Yet Bhattacharyya (1988) deserves to be critically investigated and interpreted, not only from a Western point of view but also from the perspective of modern price-level accounting.

Keywords: accounting; history; India (third century BC); Maurya period; Kautilya

Introduction

Kautilya's *Arthasāstra*¹ is little known to Western accountants or even accounting historians. It is not mentioned in standard accounting history books such as Littleton (1933), Chatfield (1974), ten Have (1986) nor is there any reference to it in pertinent anthologies, like Littleton and Yamey (1956), Edwards and Yamey (1994) or in theory texts that go back to ancient times, as does Most (1982). Only the recent encyclopaedic work by Chatfield and Vangermeersch (1996) refers to it briefly (though without mentioning Kautilya's name), stating that 'The first Indian Empire (325–150 BC) was ruled by the Mauryan dynasty. A book written during that time [apparently by Kautilya], the *Arthasastra*, described the political economy . . . There appears to have been a large and recognizable body of administrators, and offices for a treasurer, who kept accounts, and a chief collector, who was responsible for revenue records. The emperor sent officers on inspection every five years for an additional audit and check on provincial administration' (Vangermeersch, 1996: 325). But even the literature specializing on India (with a few exceptions) offers few details about the accounting aspects of the *Arthasāstra*. Lall Nigam (1986), who tried, in vain, to show that Indian double-entry bookkeeping goes back thousands of years, is slightly more informative, but even he merely states that:

The introduction and usage of a double-entry system of bookkeeping in India in times beyond the reach of historians is also evidenced by Kautilya's *Arth[a]sastra*, the oldest available treatise in political economy. The manuscript of this great work, dating as early as the 4th century B.C., contains a separate chapter on The Business of Keeping up Accounts in the Office of Accountants. . . . There are detailed references to the supervising and checking of accounts, and to the distinction between capital and revenue, expenses and profits. There are proforma summaries and tables relating to daily, monthly and yearly accounts [that] were prescribed, according to which the public accounts were to be presented. The accounts included estimates for the coming year (budgets) and the actual results of the year just ended (annual accounts). When the clerks of accounts attended with their books, the entire cabinet sat in conclave to scrutinize them and pronounce upon their accuracy, fullness and satisfactory nature in all respects. Kautilya cites various renowned authorities on the subject like Manu, Parashar, Narad, Shukracharya, Brahaspati and other sages. Even in the chapter on account-keeping, the various schools of thought are acknowledged in connection with the appropriate punishment to be meted to those responsible for any loss of revenue to the government.

(Lall Nigam, 1986: 150)

Nobes (1987), who refuted Lal Nigam's claim as to the Indian origin of double-entry bookkeeping, mentions the *Arthaśāstra* fleetingly, but the paper by Scorgie and Nandy (1992) on 'Emerging evidence of early Indian accounting', despite its title, deals with a later period and does not mention it. Choudhury (1982) did devote an article to the accounting aspects of Kautilya's *Arthaśāstra*, though it is much less comprehensive than Bhattacharyya's (1988) hardly known book, touching – among other details – on important aspects involving price changes and their² profit and accounting implications. Thus, with the exception of Bhattacharyya (and to a lesser extent Choudhury), other accounting historians seem to have missed the essence of the crucial accounting aspects of Kautilya's work. The situation might be different with respect to economic, social and political aspects to which this unique manuscript made interesting historical contributions as well; yet I could not find any reference, neither to Kautilya nor his *Arthaśāstra*, in such standard history works on economic thought as Einaudi (1953), Schumpeter (1954), Roll (1956), Fudaburk (1973), Hutchinson (1976), Creedy and O'Brien (1984), or the McGraw-Hill Encyclopedia of Economics (Greenwald 1994).

Let me first explain why I consider this ancient treatise of utmost importance. In the subsequent section I shall offer some background material and, above all, give you an indication of the surprising insights into accounting which Kautilya offered over 2300 years ago. If we compare, for example, Kautilya's *Arthaśāstra* with Pacioli's (1494) *Summa di arithmetica, geometria, proportioni et proportionalita* (in the following shortly called *Summa*), we first notice that both works deal mainly with matters beyond accounting (namely with politics, economics, finance and even war, in the former case, and mathematics, in the latter). But to the extent that these two works are concerned with our subject matter, one might say that Kautilya's pertinent sections deal with accounting problems – one is almost tempted to say with those problems in the modern sense, as Bhattacharyya (1988) claims –, while Pacioli's sections, as found in 'Particularis de computis et scripturis', are predominantly concerned with bookkeeping details. 'Accounting versus bookkeeping', this is a strong claim; but I shall put evidence before you to support it. Yet the mere possibility that insights concerning valuation problems, general and/or specific price changes, the need for different income concepts and holding gains, manifested itself long before the academization of accounting, should make us curious enough to learn more about Kautilya's *Arthaśāstra*. Indeed, everyone interested in the cultural mission of our subject matter cannot but get excited about such possibilities. The other amazing fact is, of course, that Kautilya's *Arthaśāstra* is some 1800 years older than Pacioli's *Summa*.

But why is Pacioli's work so well known in accounting circles while Kautilya's is shrouded in ignorance? First of all, Pacioli's work stands on the threshold of modern times and connects directly to the scientific-

technological and 'capitalistic' *Weltanschauung* that constitutes our heritage. Above all, it is not a manifestation of an ancient and remote foreign culture. Yet, recently, accountants have begun to open their eyes to the importance of cultures beyond the horizon of Europe and America. It is dawning upon us that every truly cultural contribution (including those of accounting), wherever or whenever it may have occurred, is an enrichment of mankind. And, to paraphrase James Burke, how can we know where we are going if we do not know where we have already been? These are not just nice phrases but thoughts to which I shall give concrete content when comparing modern notions of changing prices and price-levels with insights gained some 2300 years ago.

Another reason for the insufficient regard to the *Arthaśāstra* by Western accountants might even have to be blamed on some Indian scholars and their writings. I do not intend to implicate authors like Lall Nigam (1986), but some might be tempted to do so by pointing out that he tried to relate the *Arthaśāstra* to his quite insufficiently substantiated claim that Indian double-entry bookkeeping (*Bahi-kata*) goes back thousands of years, and was finally imported to Europe by the Venetians.³ It seems to me that the myopic concentration on double-entry bookkeeping, with the attendant neglect of deeper accounting issues, is the main reason why the true significance of Kautilya's work is still too much neglected. A further reason is the fact that Pacioli's work has continuously been known and revered for over 500 years, while Kautilya's was discovered or, rather, rediscovered only in 1905.⁴ Before giving further accounting details of the *Arthaśāstra*, parallels may be drawn between Aristotle (384–322 BC), the renowned Greek philosopher and teacher of Alexander the Great, and Kautilya (fourth to third century BC),⁵ the Indian sage and mentor of Chandragupta I. Kautilya helped to overthrow the Nanda family, placing the famous Chandragupta, first king (c. 321 BC – c. 297 BC) of the Maurya dynasty (occasionally addressed as emperor), on the throne of Maghada (now the area of Bihar).⁶ Kautilya was a scholar of great theoretical as well as practical ability; his *Arthaśāstra*, written around 300 BC, consists of 150 chapters, and is by now a well-known ancient masterpiece containing not only commercial but foremost economic, ethical, legal, political and social thoughts and expositions. One may even raise the question of why the *Arthaśāstra* concerns itself, at least to some extent, with accounting issues, while the even more comprehensive writings of Aristotle (despite revealing awareness of *economic* issues) are silent about accounting theory. As to their differing circumstances, it seems that Kautilya was closer to the centre of power insofar as his concern and advice pivots on the economic wellbeing of the state – so important for a ruler, like Chandragupta, who had to prove the superiority of his reign (particularly in comparison to that of his Nanda predecessors). And beyond that, according to Rao (1958: 19), the *Arthaśāstra* seems to have been 'an effort to reconstitute a decomposed social order, rudely shaken to its foundations by Hellenistic contacts'. Such

considerations were of a much lesser concern to an Alexander the Great, whose relentlessly conquering war-machinery appeared to be the best guarantor of continuing power – at least during his lifetime. Thus, apart from the different interests of Kautilya and Aristotle, Alexander had little need to engage his mentor (who was thousands of miles away from those military campaigns) in promoting the economic welfare and taxation potential of an empire that was a conglomerate of many nations. Had those circumstances have been reversed, – who knows? – today we might be in possession of an Aristotelian treatise on accounting.⁷

Early accounting notions of ancient India

Although several publications by Indian and other authors mention the *Arthaśāstra*, the only book doing justice to its crucial accounting aspects seems to be that by Bhattacharyya (1988), who was then working at the University of Calcutta. I have searched in vain for sources that refer to it. Yet, apart from the fact that it is hardly known (at least outside India), it requires critical evaluation, particularly from the point of view of up-to-date knowledge of price-level accounting.

Bhattacharyya submits evidence that a series of ‘modern’ accounting concepts were already used in ancient India, as early as the end of the fourth century BC when the *Arthaśāstra* seems to have been written. Such a claim ought to be carefully examined and deserves to be interpreted from a rigorous point of view. According to Anil Mukherjee’s foreword to Bhattacharyya’s (1988) book, this is the first English commentary (with original passages in Sanskrit and their English translation) of Kautilya’s thoughts on accounting. Actually, it is not clear whether Bhattacharyya used Sanskrit to translate those passages himself, or whether he had to lean on other sources in making his translation of selected passages. The first standard translation of the *Arthaśāstra* is by Shamasastri ([1915] 1967); the second one (almost half a century later, supplemented by newly discovered fragments of the treatise and with more detailed commentaries) is by Kangle (1963).⁸ In the limited space here available I have to forgo purely technical considerations, but will concentrate on what I consider to be the ancient Indian forerunners of major accounting concepts: notions that may, previously, have been deemed to belong exclusively to modern times. The following examples place the importance of Kautilya’s contributions to ‘theoretical’ accounting into proper perspective, but also demonstrate the difficulties that arise due to alternative translations and interpretations. One passage of the *Arthaśāstra* (though apparently not discussed in Bhattacharyya (1988) refers to a distinction that sounds similar to ours between *work in process*, *finished products* and *partly finished products*, as well as to our notions of *revenues*, *expenses* and *income* (net revenues) – even if subsequent passages refer to governmental accounting:

He shall also pay attention to the work in hand (*karanīya*), the work accomplished (*siddham*), part of work in hand (*śēsha*), receipts, expenditure, and net balance.

(KA/II/VI/60; Shamasastriy, [1915] 1967: 60)⁹

Another passage (from the same chapter, but item 61 – see Bhattacharyya, 1988: 16–17) points at a distinction of various types of ‘income’ (cf. also Kangle 1963: 91), but I prefer to quote below from Shamasastriy’s (1967) translation where the term ‘receipts’ is used instead of ‘income’. This seems to make more sense in this context, at least from the point of view of modern accounting:¹⁰

Receipts may be (1) current, (2) last balance, and (3) accidental (*anyajātha* = received from external source).

What is received day after day is termed current (*vartamāna*).

What has been brought forward from year before last, whatever is in the hands of others, and whatever has changed hands is termed last balance (*paryushita*).

Whatever has been lost and forgotten (by others), fines levied from government servants, marginal revenue (*pārśva*), compensation levied for any damage (*pārīhīnikam*), presentations to the king, the property of those who have fallen victims to epidemics (*damaragatakasvam*) leaving no sons, and treasure troves – all these constitute accidental receipts.

(KA/II/VI/61; Shamasastriy, [1915] 1967: 60–1)

We can hardly expect, for these times or from translators, like Shamasastriy or Kangle, who are not accountants, to make the proper distinction between the modern notions of revenues vs receipts, but we should at least try to discern the distinction between revenues (or receipts) and income. Thus I interpret the first two points of the last quotation as a distinction between *current revenues* and *deferred revenues* – to call this item ‘accrued income’, as does Bhattacharyya’s text (or translation), makes little sense to me (can ‘income’ accrue, or can only revenues and expenses accrue?). The third category has the characteristics of our notion of *extraordinary items* (revenues from non-operational sources). This finds confirmation by Choudhury who states that: ‘The balance (*nivi*) remaining after deducting total expenditure from total revenue (*samjātād āyavyayaviśuddhā*) was to be aggregated with the balance of the previous period and carried forward . . . Thus it appears, from this and other definitions, that revenue and expenditure were to be accounted for on a receipts and payments basis (either in cash or in kind) without regard to accruals’ (Choudhury, 1982: 107).

A definition of gain (or income) is found in the following passage: ‘Likewise it is a loss to undertake a work of less output and of a greater outlay, while a work of reverse nature is a gain’ (KA/VII/XII/301; Shamasastriy, [1915] 1967: 332). This could be taken as a (round-about) definition of income and loss (as Bhattacharyya seems to do), and its logical

extension could even lead to the notion of 'break-even point'. And the reference to '[c]ollection of arrears is termed "upasthāna," recovery of past arrears' (KA/II/XV/94; Shamasastri, [1915] 1967: 102), is interpreted quite reasonably by Bhattacharyya (1988: 19) as similar to 'recovery of Bad Debt previously written off'.

For me, one of the most fascinating passages of the *Arthasāstra* is the following; due to its potential significance, I shall here present three translations of it:

The profit due to rise in price of merchandise at the time of sale, sale of unsaleable goods and profit due to the use of different weights and measures is termed as Vyāji; the enhancement of price due to bidding among buyers is also another source of profit.

(KA/II/VI; Bhattacharyya, 1988: 22)

The rise in price of merchandise due to the use of different weights [footnote omitted] and measures in selling is termed vyāji; the enhancement [probably meaning 'enhancement'] of price due to bidding among buyers is also another source of profit.

(KA/II/VI/61, Shamasastri, [1915] 1967: 61)

Accretion, viz., increase in the price of commodities at the time of sale, excess in weights and measures called surcharge or the increase in price because of competition for purchase, – this is (also) income.

(KA/II/VI; Kangle, 1963: 91, item 22)

In discussing Book II, Bhattacharyya, with reference to Chapter 27 (which deals mainly with 'Prostitutes' and their business), presents the following similar quote:

if at the time of sale, the price of goods purchased earlier at a lower price rises, then, this sale will generate an *additional income*.

(Bhattacharyya, 1988: 21)

However, I could not find and verify this passage in either Shamasastri's or Kangle's translation (perhaps the reference to the number of the book and/or chapter was incorrectly stated by Bhattacharyya). Yet, even without this last quote (and despite the fact that there are considerable differences in translation), all three translations of the preceding quotation indicate that we are dealing with an important accounting issue. These crucial passages not only manifest an awareness of general or specific price changes but also refer *explicitly* to potential profits accruing from those changes. In modern parlance one would speak of *fictitious holding gains* – which Bhattacharyya (1988: 22) seems to call 'unearned income' – in case of general price changes, but of *real holding gains* if specific price changes are referred to. Obviously, the passage distinguishes between at least two different notions of income or gain caused by price increases. But which

one is meant by 'profit due to rise in price of merchandise at the time of sale' and which by 'enhancement of price due to bidding among buyers'? At this stage I am not prepared to answer this question, but I believe one cannot dismiss the possibility that one of them referred to specific and the other to general price changes.¹¹ Whatever the interpretation, Kautilya may have conceived over 2300 years ago at least some of the accounting implications of price changes. This should amaze every accountant, whether notions approaching those of modern inflation and current-value accounting were involved or not.

Further profit categories in the *Arthśāstra*, such as profits from sub-standard goods or due to distorted weights, or from illegal goods, from unfair competition, etc., refer rather to ethical and fiscal considerations. Kautilya stipulates that such profits ought to revert to the government. One might interpret this and a host of other remarks on levies, etc., as an anticipation of tax accounting issues.

Expenses too are classified by Kautilya into various categories:

Expenditure may be daily (fixed) expenses, daily extra (or, above the amount of fixed expenses) expenses, expenses for (or, to make) profit, and extra expenses for profit.

What is spent every day is daily expenditure.

What is spent during a fortnight, or a month, or a year is termed as (expenditure for) profit.

Whatever is spent on these two heads (being more than the fixed or precalculated amounts) is termed as daily expenditure and profitable expenditure respectively.

(KA/II/VI/presumably 61; Bhattacharyya, 1988: 26; again there are some discrepancies compared with Shamasastri's translation: 61)

Although the expressions in parentheses (within the translated text) seem to have been added by the translator, from the context it may be justifiable to conclude that Kautilya meant by 'daily expenditures' something like our *fixed costs*, while 'extra expenses for profit' seems to refer to *variable costs* in our sense. As to the remaining two notions, I find Bhattacharyya's commentary confusing, and suggest that Kautilya, who explicitly refers to the profit-making stage (likely to be stage of sales), might have referred to *fixed sales expenses* and *variable sales expenses*, respectively – while the first two categories may refer to production and/or administrative costs.

As far as the notion of *capital* is concerned, the following definition is offered:

That which remains after deducting all the expenditure already incurred and excluding all revenue to be realised is the net balance or *nīvī*, which may have been either just realised or brought forward.

(KA/II/VI/62; Bhattacharyya, 1988: 27; also Shamasastri, [1915] 1967: 61, with minor discrepancies)

Contrary to Bhattacharyya's view, the reader may find this an unusual definition of capital – it certainly does not conform to any of the six different definitions of this concept as listed by Cooper and Ijiri (1983: 82) in *Kohler's Dictionary for Accountants*. Nevertheless, it may be acceptable as corresponding to what nowadays is considered *ending capital* (even though it neglects characteristics of *beginning capital* or *capital* in general).¹² Particularly intriguing is the reference to capital 'realized or brought forward'. From a modern point of view this could mean that the capital notion containing only realized income (conforming to our nominal and real financial capital maintenance notions) was predominant. But what does net balance (i.e. capital) 'brought forward' mean? Could it not refer to capital including 'unrealized' income? If this were the case, then a capital corresponding to our physical capital maintenance notion would emerge as a possible alternative. But Bhattacharyya does not offer sufficient commentary to clarify this or other obscure points in the remaining text.

Furthermore, the *Arthaśāstra* (KA/II/X/71 in Shamasastri's translation) refers in several places to the notion of 'relevancy' which some might stretch as covering the modern accounting concept of *materiality*. Finally, Bhattacharyya (1988: 27–9), by referring to 'monetary cost concepts', points to the fact that Kautilya was dealing with an economy in which, beside barter, monetary transactions and monetary accounting notions played an important role. But this was hardly an innovation since money (introduced in Lydia some three hundred years before) had been widely used in Asia Minor, Greece and many other places since the sixth century BC. Yet the *Arthaśāstra* contains many passages that relate to further accounting and commercial concepts or, at least, suggests an awareness of issues leading to a series of modern concepts: for example, verification of receipts, expenditures, income, etc. (KA/II/VII/63–4), periodicity (of work paid for, and extra work; KA/II/VII/63)¹³ long-term profit optimization (KA/II/XII/299 and KA/VII/IX/292), property loss (cattle) and recovery of property deemed lost (KA/II/XXIX/129), insurance against theft (KA/II/XXIX/129), production and sale of products and byproducts (KA/II/XXIX/130–1), sales tax (KA/II/XXIX/130), renting or leasing of property (KA/II/XXIX/128–9), duties of the village accountant and of district officers (KA/II/XXXV/142–3), etc.

Regrettably, Bhattacharyya repeatedly emphasizes that this or that notion is an 'Indian' and not a 'Western' concept. Although such ethnic pride is understandable in the light of the long suppression of a highly cultural nation, like India, by a Western power, these occasional remarks could be detrimental to the scientific purpose of his work. Bhattacharyya, for instance, remarks that: 'the author is firmly convinced that he has been able to establish the truth that the concepts of income, expenditure, capital, etc., and the practices of Accounting, Costing and Auditing were in vogue in ancient India and so, these concepts are not Western, but, basically Indian' (Bhattacharyya, 1988: xii). If one studies Sumerian accounting (cf.

Nissen et al., 1993; Mattessich, 1998), one finds that notions such as costing, auditing, periodicity and even income, expenditure or capital were already deeply ingrained in ancient Mesopotamian commerce two thousand years or more before the Maurya dynasty of India. Even the recording procedures of ancient Greece (preceding those of the Indian Maurya Dynasty by more than a century) deal with accounts and such notions as expenditures, revenues, capital, etc. (cf. De Ste. Croix 1956: 14–74). What Bhattacharyya may have meant, but should have said explicitly, is that the *Arthaśāstra* seems to be the first known, extant treatise that formulated such concepts as income, expenditure, capital, etc., in a more or less clear fashion. Such a crucial historical insight hints at achievements which outweigh, by far, the dispute about which ethnic group or race has priority status in the birth of early accounting concepts. To have drawn attention to the fact that Kautilya's *Arthaśāstra* seems to be the very first treatise (as far as we know) dealing with accounting notions more from a descriptive or 'theoretical' point of view than did the Sumarians, Babylonians, possibly even the Chinese, seems to be the real merit of Bhattacharyya (1988).

It is also surprising that Bhattacharyya (1988) appears to have been unaware of the more recent standard translation by Kangle (1963), containing a host of commentaries in footnotes, as well as of the article by Choudhury (1982). The latter, in a way, is proof against Mukherjee's (1988: ix) belief that Bhattacharyya (1988) was the first to discuss accounting aspects of Kautilya's *Arthaśāstra*. Further shortcomings of Bhattacharyya (1988) are found in some of the interpretations and commentaries; these often seem to stretch the imagination as far as the relation between modern accounting practice and the text of the *Arthaśāstra* is concerned. Occasionally, one might also question the terminology used in Bhattacharyya (1988); the terms may not always correspond to those used in modern accounting theory. But the ultimate judgement on all those matters must remain with future research.

Furthermore, there is the question of whether one may compare accounting notions formulated some 2300 years ago, and under very different social conditions, with those of our modern discipline, as done in Bhattacharyya (1988). In this respect I should like to defend him. Above all, I believe that whenever and wherever accounting issues, particularly such as price changes and their consequences in profit measurement are concerned, accounting is universal enough a discipline. I readily acknowledge that different information goals require different accounting concepts, but I also believe that accounting possesses a basic core that is timeless – though possibly not quite as universal as the concepts of the physical sciences (which apply to extra-terrestrial phenomena and regions as well). If a merchant or somebody else makes a profit due to the fact that the sales price (of a commodity which he or she has held) has doubled, it is a holding gain, whether today or a millennium ago. And if one has some indication that this price change went beyond a more general or

inflationary price change, one had good reason to argue that this holding gain was at least partly a real one. And if that person did, indeed, sell this commodity, one may speak of a real as well as realized gain, whatever the social circumstances may have been or whatever terminology was used at the time. Such anticipation of some accounting notions is not dependent on disciplinary continuity. Of course, the latter cannot be assumed; and, if Bhattacharyya (1988) should deny this, I would have to distance myself from such a claim. But if a certain accounting notion existed in the mind of one or more persons 2300 years ago, and if this same notion appears thousands of years later in the form of a more formal concept, perhaps even within a different framework, it still is the same idea, independent of whether it continued uninterruptedly to exist in human minds or whether it was freshly conceived a thousand years later. In the latter case, I would find it all the more astonishing and worth proclaiming that such a notion was born a long time ago, even if dormant for ages. This holds for Hindu accounting concepts of the fourth and third century BC, no less than for much earlier accounting notions; for instance, those of the Sumerians of the third millennium BC and before (see, e.g. Mattessich, 1995: ch. 2, 1998). The major difference between the Hindu and the Sumerian notions is that the former are contained in a descriptive ('theoretical') text while the latter notions are primarily extracted from the Sumerian accounting systems themselves (i.e. from *representations* instead of *descriptions*). There too, *basic* accounting needs and notions, similar and comparable to ours in the twentieth century, manifested themselves in clear and indubitable records more than four thousand years old.

Apart from the items discussed above, Bhattacharyya (1988) contains other conceptual and many technical details (e.g. on preparing and designing accounts) which would warrant additional analysis. But, for the time being, this presentation has, hopefully, offered enough material to stimulate accountants (especially those familiar with Hindi or even Sanskrit) to undertake further research in this particular area, and to subject Bhattacharyya's (1988) praiseworthy effort to further scrutiny.

Auditing, taxation, financial and other aspects

Apart from Kautilya's surprising insights into basic accounting notions and some dimensions of accounting for changing prices, taxation aspects play a major role in the *Arthaśāstra*.¹⁴ This is quite understandable; since early Sumerian and Babylonian times accounting has found its most ardent promoters among bureaucrats bent on securing and controlling revenues for temple and state authorities. Indeed, without the strong authoritarian government of Chandra Gupta, and its need to secure various taxation sources, it is unlikely that Kautilya would ever have incorporated any accounting considerations into his *Arthaśāstra*.

Book II offers sections on ‘The Business of the Collection of Revenue by the Collector-General’, ‘The Business of Keeping Up Accounts in the Office and Accountants’ and ‘Detection of What is Embezzlement by Government Servants out of State Revenue’, dealing with bookkeeping and auditing. There are specific references to the verification of receipts, expenditure, income or capital (KA/II/VII/63–4). The duties of village accountants and of the Collector General are described in KA/II/XXXV, while in KA/II/VIII no less than forty ways of embezzling are listed; and in the preceding chapter Kautilya considers the punishment of accountants and other officials for failing in their duties, be it by deliberate fraud or incompetence, negligence, etc. As to auditing proper, we find the following passage:¹⁵

The receipt shall, on the Vyushta, the new year’s day, be verified with reference to the place and time pertaining to them, the form of their collection (i.e. capital, share), the amount of the present and past produce, the person who has paid it, the person who caused its payment, the officer who fixed the amount payable, and the officer who received it. The expenditure shall, on the Vyusuta [should probably be Vyushta], or new year’s day, be verified with reference to the cause of the profit from any source, in the place and time pertaining to each item, the amount payable, the amount paid, the person who ordered the collection, the person who remitted the same, the person who delivered it, and the person who finally received it.

Likewise the net revenue shall on the Vyushta day be verified with reference to the place, time, and source pertaining to it, its standard of finesse [quality] and quantity, and the persons who are employed to guard the deposits and magazines (of grains, etc.).

(KA/II/VII/64; Shamasastri, [1915] 1967: 64–5)

Much detail can be found on farm and cattle accounting (see KA/II/XXIX), though no mention seems to be made of such matters as income recognition (‘realization’) when a calf is born or at a later stage (e.g. when it is sold). Thus, the sophistication of Indian accounting for farms and animal husbandry, as expressed in the *Arthaśāstra*, does not seem to have much exceeded that which can be inferred from Mesopotamian accounts in the form of cuneiform clay tablets of the third millennium BC (see Nissen *et al.*, 1993: 89–104; Mattessich, 1998).

In Book III there are sections on the ‘Recovery of Debts’, prescribing various amounts of interest to be paid in different situations, etc. And numerous publications give evidence of Kautilya’s interest in financial matters and taxation issues. Parmar (1987: 146–7), for example, comments on these aspects as follows:

It is because of the meticulous care with which Kautilya deals with questions pertaining to finance that the *Arthaśāstra* is also known as a treatise on applied finance . . . It has tremendous relevance to modern

times and is perhaps the only work of its kind in classical antiquity – unique, brilliant, objective and far-reaching . . . Kautilya lays great emphasis on the importance of treasury and makes every effort to increase receipts and reduce expenditure. [p. 146] . . . The term ‘tax’ did not mean the same thing in the Mauryan period as it means today. . . . in ancient India, the relationship between the king and his people was one of contract. This relationship was so sacred that the subject was entitled to the refund of taxes if the state failed to protect him fully. . . . Kautilya’s theory of taxes was like the modern theory of prices, and prices were charged by a public authority for specific services rendered and commodities supplied. . . . The field of taxation in the Kautilyan state was vast and all-embracing [p. 147].

Parmar (1987: 256–7) later refers to Kautilya’s theory and system of taxation by stating that:

Kautilya’s theory of taxation is governed by the norms of a surplus budget. Accordingly, Kautilya offers a comprehensive catalogue of items of revenue and expenditure, which demonstrates his systematic dealing with financial problems. In doing so, he has laid the foundation of sound financial structure. He devises an efficient mechanism for data collection and keeping of a complete record of accounts and census along with the statistics regarding history, occupation, income, expenditure, age and special characteristics of different sections of population . . . [p. 256]. Kautilya’s financial administration partakes of modernity insofar as it possesses the necessary attributes of budgeting such as fiscal year, estimates of expenditure and income, and statement of comparative estimates of receipts and expenditure of the preceding and the current year [p. 257].

Hence the activities of financial planning and budgeting also assume an important place in the *Arthaśāstra* (for further references see Parmar, 1987: 88, 166, 171–2).

Finally, Kautilya’s *Arthaśāstra* is not merely significant for only for business accounting but also for government accounting; with some stretch of imagination it may even be regarded as a forerunner of national income accounting since the ultimate purpose of Kautilya’s work was to strengthen the economy of the entire nation. Its significance lies in the attempt to offer accounting concepts of fairly general validity and to prescribe accounting rules or regulations to be adhered to in all sorts of entities (be it commercial, agricultural, governmental or, possibly, on a national scale). Of course, the very purpose of the *Arthaśāstra* pivots on governmental issues, but at this time governmental accounting and accounting for an entire nation would have been virtually the same – or, at least, the boundaries between the two were hardly established. This treatise may even be called in evidence for the close relationship between micro- and

macro-accounting concepts. Choudhury is particularly prone to interpret the *Arthaśāstra* from a governmental and national income point of view:

The state's aggregate revenue was classified by Kautilya in three different ways. First he had the "body" [footnote omitted] or "corpus" of income [footnote omitted], *āyaśārīram*, which identified the revenue with its seven sources. . . . Secondly, the total revenue was re-classified into seven "mouths" or "heads" of income, *āyamukham*, indicating the manner in which the revenue arose . . . The third classification consisted of "current income" (*vartamana*), "outstanding income" (*par-yushta*) and "income derived from other sources (*anyajata*) [footnote omitted]".

(Choudhury, 1982: 106)

In reading those passages one is reminded of the threefold categorization and measurement of social income (on the levels of input, distribution and output) customary during past decades. Thus one may see the significance of Kautilya's work in the fairly general validity of its concepts and of prescribing accounting rules or regulations to be adhered to by all sorts of entities (be they commercial or governmental).

Conclusion

This paper finds its justification in the fact that the accounting aspects of Kautilya's *Arthaśāstra* have been grossly neglected in the history of our subject matter, and in the need to draw attention to the subtle details and the profundity of this work. This neglect by accountants (and not only those of the 'West') is difficult to explain, but it is particularly surprising as the *Arthaśāstra* is the very first treatise on accounting, as far as present historical documentation goes. As far as I am aware, the only other publication discussing some aspects of it is an article by Choudhury (1982) which, however, is less comprehensive in discussing the accounting issues of Kautilya's *Arthaśāstra*. The small book by Bhattacharyya (1988) seems to be the first to have illuminated most of such details, but it is so little known that *The Book Review Index* (Cumulations 1988–95) shows not a single review of this book. Furthermore, Bhattacharyya (1988) is in urgent need of evaluation and detailed critical analysis. It is hoped that the present paper has offered such an analysis and opens the door to further pertinent investigations.

The following items summarize what I believe to be the essential and most important accounting aspects of Kautilya's *Arthaśāstra* and hence of the first known treatise dealing with accounting aspects from a more theoretical point of view than any previously known record on this subject matter:

- 1 It contains conceptual formulations (not merely the application) of such concepts as income and revenue, expenditures, expenses and costs, sales tax, capital, etc. Some of these notions (as well as some distinctions mentioned in the next item) are, of course, much older; some can be inferred from accounting *records* of Sumerian and Babylonian times (cf. Nissen *et al.*, 1993; Mattessich, 1995, 1998) but *not* from any theoretical discussions of these periods. Thus their theoretical presentation seems to occur, as far as historical documentation appears to go, first in the *Arthaśāstra*.
- 2 It manifests an awareness of such costing issues as work in process, partly finished products, and finished products, production of by-products, long-term profit optimization, insurance or risk distribution, renting or leasing, etc., and offers pertinent descriptions.
- 3 It offers discussion of verification, auditing and taxation procedures.
- 4 It refers to price changes and the different notions of profit or gain resulting from them, as well as the effect of these changes on accounting procedures.

The last item is probably the most important one in recognizing the *Arthaśāstra* as a treatise dealing with 'theoretical' accounting aspects and foreshadowing concepts that were systematically dealt with not before the twentieth century. These four items appear to be reason enough to put Kautilya's *Arthaśāstra* beside Pacioli's *Summa*, and revere both of them as the most crucial landmarks in the early history of our discipline. I also hope that accountants may be persuaded to read not merely *about* the *Arthaśāstra* but a complete translation itself, to form a personal appreciation of this ancient treasure trove.

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Notes

This paper is based on my presentation 'Kautilya's *Arthaśāstra*, a Sanskrit treatise, formulating "modern" accounting issues some 2300 years ago' at the 20th Congress of the European Accounting Association (in Graz 1997). Financial support from the Social Sciences and Humanities Research Council of Canada is gratefully acknowledged.

1 The Hindi literature knows several ancient *Arthaśāstras* (a term that could literally be translated as 'wealth science' but probably is better regarded as 'scientific treatises' in general), but Kautilya's seems to be by far the most renowned one. In the following, *Arthaśāstra* always refers to that by Kautilya.

2 Occasionally it is claimed that the *Arthaśāstra* is too 'descriptive' and not sufficiently 'analytical' (Spengler, 1963: 228). This may be correct from our modern point of view, perhaps even in comparison with some works of Aristotle and other contemporary philosophers of Kautilya. But for accounting, the limitation to descriptive aspects hardly negates the theoretical nature of this

treatise, particularly in comparison to prior times. From those times we have but accounting *records* without much evidence of truly theoretical reflections about them.

3 See, for example, the refutations of Lall Nigam's (1986) view in Nobes (1987), Scorgie (1990), Scorgie and Nandy (1992).

4 Rao (1958: 1, 3) considers Shamastry the discoverer of the *Arthasāstra*: 'With the discovery of Kautilya's *Artha Sastra* by Dr. R. Shama Sastri in 1905, and its publication in 1914, much interest has been aroused in the history of ancient Indian political thought; [p. 1]. . . . The *Artha Sāstra* . . . is a compendium and a commentary on all the sciences of Polity that were existing in the time of Kautilya. It is a guidance to kings. . . . *Artha Sāstra* contains thirty-two paragraphical divisions [Books]. . . . with one hundred and fifty chapters, and the *Sāstra* is an illustration of a scientific approach to problems of politics, satisfying all the requirements and criteria of an exact science' [p. 3]. But going back to the preface of the standard work and translation by Shamastry (1967: vi), it is revealed that the manuscript of Kautilya's *Arthasāstra* was actually discovered by a person described merely as 'a Pandit of the Tanjore District' who handed it over 'to the Mysore Government Oriental Library' of which Shamastry was the librarian.

5 Apart from spelling Kautilya, in some instances, as 'Kautiḷya' (see Ritschl and Schetelich, 1973), he is occasionally referred to by his other names: 'The personal name of the author was possibly Vishnugupta, Chanakya the patronymic and Kautilya (or Kautalya) the name by which he was generally known' (Choudhary, 1971: 27).

6 Magadha (situated in the heart-land of India) was for many centuries one of the dominating Hindu kingdoms and cultural centres; it was also there that during the sixth century Gautama Buddha (the founder of Buddhism) as well as Jñātiputra Mahāvīra (the founder of Jainism) used to teach. Chandragupta I (called Sandracottus by the Greek) was the founder of the famous Maurya dynasty and empire (opposing further Greek invasion and, ultimately, in alliance with the Seleucid Empire) which lasted from c. 321 BC to 184 BC; it stretched from the Indus to the Ganges, and thus was the first Pan-Indian empire. Chandragupta's grandson was the even more renowned Emperor Asoka (c. 274–236 BC), whose conversion to Buddhism had widespread repercussions all over his country – dates, which vary from book to book, are taken from Langer's (1952) *Encyclopaedia of World History*. For a short description of Chandragupta and his mentor, let us listen to Durant (1954: 441):

Chandragupta was a young Kshatriya noble exiled from Magadha by the ruling Nanda family, to which he was related. Helped by his subtle Machiavellian adviser, Kautilya Chanakya, the youth organized a small army, overcame the Macedonian garrisons, and declared India free. Then he advanced upon Pataliputra [the modern Patna], capital of the Magadha kingdom, fomented a revolution, seized the throne, and established that Mauryan Dynasty which was to rule Hindustan and Afghanistan for one hundred and thirty-seven years. Subordinating his courage to Kautilya's unscrupulous wisdom, Chandragupta soon made his government the most powerful then existing in the world. When Megasthenes came to Pataliputra as ambassador for Seleucus Nicator, [Greek] King of Syria, he was amazed to find a civilization which he described to the incredulous Greeks – still near their zenith – as entirely equal to their own. [Cf. Kohn (1929: 350)]

7 Further comparisons between Aristotle and Kautilya (who were about a generation apart) can be found in Rao (1958: 32–49).

8 There also exists a more recent version of Kautilya's *Arthaśāstra* by Rangarajan (1992) which, however, was not accessible to me.

9 'KA/II/VI/60' stands for 'Kautilya's *Arthaśāstra*/Book II/Chapter VI/Item 60'; the same convention is adhered to in subsequent citations. Bhattacharyya (1988) merely indicates the book and chapter (though *in reverse order*) but not the item. Kangle (1963) not only uses Arabic numerals to indicate the sequence of books and chapters but (due to incorporating fragments of the manuscript found at a later time, and for possibly other reasons) the numbering of 'items' is different (making his translation slightly more awkward to compare with those used by Shamastry (1967) and Bhattacharyya (1988).

10 This seems to be in agreement with Choudhury's (1982: 107) interpretation of Shamastry's translation 'If this was the meaning intended by Kautilya, then *nitya* and *lābha* may be paralleled with revenue [receipts] and capital expenditure.'

11 For details on the nature of various holding gains, their differences and combinations, see Mattessich (1995: 100–19).

12 However, Bhattacharyya (1988: 26) does state that: 'According to him [Kautilya], Capital is of two types: 1. Capital already deposited into the Royal Fund; 2. Capital remitted for deposit to the Royal Fund, but in transit.' The first item could be interpreted as 'beginning capital of a specific accounting period' while the second item as 'surplus added' to the beginning capital. Regrettably, Bhattacharyya does not indicate where (in the *Arthaśāstra*) the pertinent passage can be found.

13 Bhattacharyya's (1988: 15) translation of this passage is as follows: 'Three hundred and fifty four days and nights is a working year. Such work shall be paid for more or less in proportion to its quantity at the end of the month of Āshādhā (about the middle of July). The extra work done during the intercalary month shall be separately calculated.' I think this confirms a certain notion of periodicity, at least as far as payroll accounting is concerned.

14 Reference to legalistic, administrative, financial and taxation aspects of the *Arthaśāstra* can, for instance, be found in Rao (1958: 171–222), Ramaswami (1962: 82–105), Choudhary (1971: 100–242), Metha and Thakkar (1980: 33–54), Parmar (1987: 53–201), Kumar (1989: 6–14, 27–31, 67–96). These books are all by Indian authors (written mainly in English, occasionally intermixed with Sanskrit passages). There also exists a treatise on the socio-economic aspects (of this period) in German by Ritchl and Schetelich (1973). Apart from the standard translations of the *Arthaśāstra*, the following commentaries deal with the *Arthaśāstra* and/or Kautilya: Aiyanger (1949), Bandhyopadhyaya (1927), Trautmann (1971), Mukherjee (1976), Narasingha (1985).

15 An appropriate supplement to this passage is the following remark by Choudhury:

Annually, on the full moon day in the month of *Asādhā* (around mid-July) the works officers and the accounts officers were to present themselves for audit at the *aksapatala* with sealed containers (of money and goods) and sealed books of accounts. To prevent any form of collusion these two types of officers would not be permitted to communicate with one another.

(Choudhury, 1982: 108)

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