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Review of  
Balbir Singh Sihag (2014): *Kautilya. The True Founder of Economics*, Vitasta Publishing,  
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It is very difficult not to be impressed by the social (and other) insights that are present in old Indian texts. The indologist Zimmer (1969, p. 89) observes, in the context of Indian fables, that Indian political thought was characterized by “cold-blooded cynical realism and sophistication”. The very same proclivity, but in more systematic manner, is shown by the economist and political scientist *Kautilya* (or so he calls himself) who wrote a manual on ‘wise kingship’, the *Arthaśāstra*. The *Arthaśāstra*, which may be about 2000 years old<sup>1</sup>, deals with many diverse topics, such as taxation, diplomacy, warfare, and the management of spies (see the treatments by Boesche (2002) and Scharfe (1993)).

Balbir Singh Sihag has published a series of papers dealing with *Kautilya*’s *Arthaśāstra* (henceforth addressed as KAŚ). The author claims that *Kautilya* is the forerunner in many fields of economics, from taxation to moral hazard, from non-cooperative game theory to concepts like opportunity cost or producer surplus. Sihag has now presented a book-long version of this theme: “*Kautilya. The True Founder of Economics*”. His book is not just a repetition of his articles, but he adds new aspects and rearranges the whole material collected over many years.

The reviewer cannot help but support Sihag in his main mission. KAŚ is conspicuously absent from prominent books on the history of economic thought.<sup>2</sup> From the reviewer’s point of view, *Kautilya* deserves praise for many insights, in particular:

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<sup>1</sup> Olivelle (2013: 29) argues for “sometime between 50 and 125 C.E.”.

<sup>2</sup> Sandmo (2011) has a chapter 2 entitled “Before Adam Smith”. There, he mentions the Old Testament (Joseph in Egypt with the seven fat and the seven lean years), makes a few remarks on Aristotle, before skipping to the scholastics and to mercantilism. Similarly, Rothbard (1995) deals with “The first philosopher-economists: the Greeks” in chapter 1 and then turns to “The Christian Middle Ages” in chapter 2. Again, in his monumental collection of articles written on “economists” from Aristotle (vol. 2) and St Thomas Aquinas (vol. 3) up to Keynes (vol. 46/47), Blaug (1991) sees no need to deal with, or did not find serious articles on, *Kautilya*. (Vol. 1 is concerned with the how and the why of the history of economic thought as a subject.)

- (i) *Kauṭilya* developed a systemic and comprehensive picture of the problems a king is facing.
- (ii) KAŚ is full of evidence of its author's cunning. In KAŚ 7.17 (in Olivelle 2013, pp. 323-325), where *Kauṭilya* discusses peace making through hostages, *Kauṭilya* writes: "The taking of a kinsman or a chief constitutes a hostage. In this event, the one who gives a traitorous minister or a traitorous offspring is the one who outwits. One who does the opposite is outwitted" (KAŚ 7.17.11-13 in Olivelle 2013, p. 323).
- (iii) *Kauṭilya* suggests a very unusual market tax (KAŚ 2.21.1, 7-9 in Olivelle 2013, p. 148). A trader wanting to sell a good is to tell the value  $V$  of that good to customs authorities. When a bidding process leads to a price  $p$ , the difference  $p - V$  is to be paid as a tax to the authorities. If  $V$  equals the unit cost of production, this difference equals the concept of producer's surplus as Sihag<sup>3</sup> (pp. 208, 211-212) has observed. It is also remarkable that *Kauṭilya* thought about the traders' incentives of pronouncing  $V$  (KAŚ 2.21.13 in Olivelle 2013, p. 148), as shown by Wiese (2014).

One might, of course, ask the question whether the disregard of KAŚ by historians of economic thought is a problem. If they try to show how economic thought developed up to modern times (leading to this or that Nobel price, say), they are surely justified to disregard *Kauṭilya* who was not part of the European or Western economic tradition. However, one may alternatively take Sihag's point of departure and ask the question: Who was (among) the first to develop or apply an economic concept? Who is a forerunner of an economic theory?

Sihag's answer is clear: We need to credit *Kauṭilya* rather than Adam Smith (or others like Walras, Keynes or Turgot) for most discoveries in economic theory and policy. In his articles and in the book, the author has assembled many "modern" concepts and theories of which *Kauṭilya* may claim to be the first inventor. However, not all of these examples are convincing.

For example, Sihag (p. 53) claims that "Kauṭilya implicitly used discrete marginal analysis. ... Kauṭilya (p 259) stated, 'With increased wealth and a powerful army more territory can be acquired, thereby further increasing the wealth of the state (2.12)'. Two points are in order. First, he was referring to a dynamic process, and secondly, to increments in wealth, army and territory."

There seem to be several problems with these arguments. Consider the Sanskrit original of KAŚ 2.12.37 (in Kangle 1969, p. 58):

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<sup>3</sup> The game that Sihag (p. 208-209) specifies in this regard does not have much to do with *Kauṭilya*. Incidentally, there is a small mistake in the payoff matrix where the authority's payoff for the strategy combination (auditing, cheating) should be 0, not  $-Y$ . This also affects the equilibrium probability of cheating.

ākaraṇprabhavaḥ kośaḥ kośād daṇḍaḥ prajāyate  
pṛthivī kośadaṇḍābhyāṃ prāpyate kośabhūṣaṇā

Olivelle (2013, p. 129) translates as:

The treasury originates from mines, and the army is born from the treasury; the earth adorned by the treasury is obtained through the treasury and the army.

Obviously, this translation is closer to the Sanskrit original than Rangarajan's one.<sup>4</sup> Thus, it is not really clear whether *Kauṭilya* did have a “dynamic process” or “increments” in mind. And even if, statements of the form “the higher some  $x$ , the larger some  $y$  is likely to become” are commonplace in practically every language and do not attest to specific methodological capacities.

Similarly, according to Sihag (pp. 68-70), *Kauṭilya* has introduced the axiomatic method. As evidence, Sihag points to two axioms, the first being the “Axiom of Comparison”. By that the author simply means that *Kauṭilya* makes statements of the form “ $x$  is better than  $y$ ”. (The subsection in Sihag's book is entitled “Anticipation of Ordinal Preferences”.) Indeed, the *Arthaśāstra* abounds with these claims and the clever reasons that *Kauṭilya* adduces to support them. Clearly, however, the very fact of making these statements cannot be considered a methodological insight. Any child can say that it prefers strawberry juice over orange juice.

The second axiom mentioned by Sihag is the “Axiom of Transitivity” (which he, reasonably, calls “Axiom of Consistency”). It claims that a decision maker who prefers  $x$  over  $y$  and  $y$  over  $z$  should also prefer  $x$  over  $z$ . While this is certainly a central axiom in decision theory, most people of all times would not violate it if only a few choices are involved. Neither does *Kauṭilya*, but we should not make too much of it. In any case, our old Indian economist and political scientist was not close to any system of axioms that might be necessary or sufficient for some claim entailed by it.

Other claims by Sihag on *Kauṭilya*'s theoretical insights are also difficult to swallow. The reviewer, at least, cannot see where *Kauṭilya* would have shown some understanding of “diminishing returns” (pp. 74-76) or of “economies of scale” (pp. 229-230). Also, while incentive problems mattered a lot to *Kauṭilya*, there is no serious link to the efficiency-wage theory by Shapiro and Stiglitz (Sihag pp. 179-180).

It is a difficult question whether *Kauṭilya* should be considered a forerunner of principal-agent theory. Roughly speaking, principal-agent theory deals with the

<sup>4</sup> Note, however, that Sihag disregards the squared brackets that Rangarajan (1992, p. 259) has put around “increased” and “powerful”.

problems that arise from asymmetric information, with one person being better informed than another one. Sihag (2007) and also his current book as well as Brockhoff (2014) have given due credit to *Kauṭilya* as a very early principal-agent theorist. It is clear that trying to cheat and preventing to be cheated upon is very high on *Kauṭilya*'s agenda. As one example among many, reconsider (ii) from above.

Apparently, the asymmetry is a problem for the uninformed side (the principal). However, this asymmetry may quickly turn into a problem for the informed side (the agent), also. After all, the principal might decide against dealing with the agent and thus prevent a mutually beneficial arrangement. As argued by Wiese (2015), *Kauṭilya* did not notice this second problem.

Turning to normative economics, Sihag (pp. 11-12) stresses *Kauṭilya*'s ethical viewpoints and suggests that *Dharmanomics* (where *dharma* may mean religion, duty, ethics, or the like) may be an alternative manner to characterize the *Arthaśāstra*: *Kauṭilya* "placed a very heavy emphasis on ethical values." This is, of course, a debatable position. After all, *Kauṭilya* would not shy away from killing innocent people for the purpose of power (see, for example, the discussion by Boesche 2002, pp. 51-54). It seems clear that *Kauṭilya* stands for an instrumental role of ethics. In this manner, KAS 7.5.19-27 (in Olivelle 2013, p. 290) wisely stresses the importance of the subjects' loyalty:

<sup>19</sup> ... by casting away good people and embracing evil people, by initiating unprecedented and unrighteous acts of violence;

<sup>20</sup> by discontinuing customary and righteous practices, by addiction to what is unrighteous, and by severing himself from what is righteous;

...

<sup>26</sup> through the negligence and laziness of the king or the destruction of enterprise and security, there arise the impoverishment, greed, and disloyalty of subjects.

<sup>27</sup> When impoverished, subjects become greedy; when they are greedy, they become disloyal; and when they are disloyal, they either go over to the enemy or kill their lord themselves.

I like to add some minor criticisms. (a) It is a pity that Sihag could not have waited for Olivelle's translation of the *Arthaśāstra*. One major disadvantage of Rangarajan's translation is his rearrangement of the *Arthaśāstra*'s topics.<sup>5</sup> If that were necessary, *Kauṭilya* would not be the very clever and astute writer that Sihag and the reviewer see in him. (b) One finds occasional remarks that are

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<sup>5</sup> A specific example of what can go wrong is related to (iii). Rangarajan places apart by more than 100 pages closely related issues (compare footnotes 2 and 5 in Wiese 2014).

mystifying to non-economists<sup>6</sup> or even to economists<sup>7</sup>. (c) There are a few mistakes and also unusual manners of writing in the author's quotes of the *Bhagavad Gītā* on p. 50.

To the mind of the reviewer, Sihag tries too hard to establish *Kauṭilya* as a forerunner in many fields. For example, where *Kauṭilya* intelligently compares the usefulness of troops obtained from allies with the usefulness of money obtained from those allies, Sihag (p. 77) draws full-fledged isoquant diagrams. Similarly, where *Kauṭilya* discusses the decline in tax revenue following a drought, Sihag (p. 223) writes down a Cobb-Douglas production function. Not much, it seems, is gained by these “translations”, as Sihag (pp. 139-140, 170, 220, 221, 297) would do repeatedly. Thus, while the author tried to avoid the pitfalls that await the critical reader of ancient texts (see Sihag's own insightful discussion in chapter 3), he has succeeded only partially.

Summarizing, Sihag is right in deploring the *Arthaśāstra*'s absence from modern histories of economic thought. While *Kauṭilya* could not have influenced economics (as we know it today), he offers many insights to economists and political scientists alike. In the proper sense, he cannot be called a “founder of economics”, if only for the fact that Western thought did not take account of him until recently. It is to be hoped that Sihag's book may change this neglect. It surely offers the reader some starting points of discussing *Kauṭilya* both from the point of view of his time and from the point of view of modern economic theory. One may then also discuss the question of the relative merits of *Kauṭilya* versus Adam Smith, a question that the review sidelines.

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<sup>6</sup> Sihag (p. 313) writes: “At the time of *Kauṭilya* there was no special bank to undertake any monetary policy. Still the problem of credibility was perhaps quite serious, since ....”

<sup>7</sup> Sihag (pp. 66-67) writes: “During the classical period, concepts like centre of gravity, and normal price were considered central to economic analysis but neoclassical analysis made them obsolete. Similarly, thanks to the information revolution, even the fundamental theorems of welfare are not that fundamental any more.”

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