

## Fragment

# Nasir ad-Din Tusi on social cooperation and the division of labor: Fragment from *The Nasirean Ethics*

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Nasir ad-Din Tusi's (born 1201 in Tus in northeastern Persia; died 1274 in Baghdad), has been far more influential for his various contributions to astronomy and mathematics, including founding the Maraghah observatory (in Iranian Azerbaijan) and his brilliant reformulations of the Ptolemaic planetary model, which served as an important inspiration for Nicolaus Copernicus (1473–1543) revolutionary work than for anything else.<sup>1</sup> Nonetheless, he also stands as one major figure in the medieval Islamic philosophical ethics and a profound thinker on socio-economic matters, as is attested by his masterpiece *Akhlaq-i Nāsīrī* (*The Nasirean Ethics* – titled after his first name), from which the following Fragment is taken. He may be deservedly credited as an important pioneer of the science of political economy.

### 1. The general background in the history of economic thought: The narrowing of Schumpeter's 'Great Gap'

To appreciate Tusi's contribution to what was later on called political economy, we need to address a long entrenched hypothesis in the history of economic

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1 Scrutiny of the historical documents suggests that the only two theorems Copernicus used in his model of planetary motion that were not already in the classical Greek sources are the 'Tusi Couple' due to Nasir ad-Din Tusi and a result due to another Islamic astronomer, Mu'ayyad al-Din al-'Urdi of Damascus, of the thirteenth century. Following the rediscovered documents in the 1950s of medieval Islamic mathematics and astronomy, some authors including Edward Kennedy, Otto Neugebauer, George Saliba, and Noel Swedlow have in recent decades meticulously examined the extent to which Copernicus was anticipated by, or even borrowed from without giving due credit, non-Christian sources in his revolutionary work. The literature has also explored possible ways through which the medieval Islamic astronomers' works became known to Copernicus (see Saliba, 2002 and the references cited therein).

thought, namely Schumpeter's (1954/1994: 73–4) 'Great Gap' thesis. It states that very little if anything was achieved in economic analysis during a period of 'over 500 years to the epoch of St Thomas Aquinas (1225–74)', i.e. to the golden age of Latin Scholastics in the thirteenth century. In recent years, Schumpeter's thesis has been substantially challenged.<sup>2</sup> It is widely known among students of medieval cultures that medieval Islam, notably the Abbāsid Dynasty, which is arguably the zenith of Arab–Islamic civilization in terms of influence on other civilizations, played a crucial role in the intellectual movement originating from Greeks and eventually resulting in the rise of the European Scholastics. As is emphatically pointed out by S. Todd Lowry (2003: xi):

The historical facts are undeniable, namely that the culture of antiquity are sustained and developed in the Islamic world during the medieval period; and the intellectual darkness in northern Europe from the seventh to the eleventh century AD was a strictly local phenomenon. The torchbearers of ancient learning during the medieval period were the Muslims, and it was from them that the Renaissance was sparked and the Enlightenment kindled.

Indeed, as documented in detail in Philip Hitti's (2002) monumental volume, the 'rediscovery' of Aristotlian scholarship and the renaissance of Europe would have been hardly imaginable but for the intellectual contribution by medieval Islamic scholarship (Hitti, 2002, especially p. 315 and p. 363).

As far as the economics of the division of labor and social cooperation is concerned, it appears that medieval Islamic scholarship was absorbed by the Latin Scholastics, though without due acknowledgement, thereby exerting influence on Mercantilists and classical political economists including Adam Smith (Essid, 1987; Hosseini, 1998; Ghazanfar, 2003).<sup>3</sup> In particular, al-Ghazali (1058–1111), 'unquestionably the greatest theologian of Islam and one of its noblest and most original thinkers' (Hitti, 2002: 431), makes some observations on the vertical division of labor that strikingly resemble Adam Smith's in an interesting manner. In his most important book, *Ihya Ulum al-Din* (Revivification of the Sciences of Religion), al-Ghazali wrote:

For a bread, for example, first the farmer prepares and cultivates the land, then the bullock and tools are needed to plough the land. Then the land is irrigated. It is cleared from weeds, then the crop is harvested and grains are cleaned and separated. Then there is milling into flour before baking. Just imagine – how many tasks are involved; and we here mention just only some. And imagine the

2 For a collection of recent studies mainly by Ghazanfar, who brought the Schumpeterian Gap to the attention of the profession at the History of Political Economy meeting held at Toronto in June 1988, and his co-authors that aims to fill the 'Great Gap', see Ghazanfar (2003). A review of refutations of the Great Gap hypothesis is found in Hosseini (2003). A new chapter on the medieval Arabic–Islamic economics has been added in the 4th edition of Harry Landreth and David Colander's (2001) influential textbook in the history of economic thought, reflecting the extent to which Schumpeter's Great Gap has narrowed.

3 It must be pointed out that intellectual borrowing without giving due credits to the source was not uncommon then, in both the Latin scholastics and the Arabian scholastics (refer to, e.g., Ghazanfar, 2003: 154).

number of people performing these various tasks, and the number of various kinds of tools, made from iron, wood, stone, etc. If one inquires, one will find that perhaps a single loaf of bread takes its final shape with the help of perhaps more than a thousand workers. (*Ihya*, 4:118; quoted in Ghazanfar and Islahi, 1990: 390)

In further articulating the gains from, and necessary coordination in, the manufacturing division of labor, al-Ghazali took needle production as an example, ‘even the small needle becomes useful only after passing through the hands of needle-makers about twenty-five times, each time going through a different process’ (*Ihya*, 4:119; quoted in Ghazanfar and Islahi, 1990: 390). As it happens, al-Ghazali’s needle example well resembles, over a ‘great gap’ in time as Schumpeter may tend to call, the French Encyclopédie’s ‘Epingle’ (1750s) production (consisting of eighteen separate processes), from which Smith’s famous pin-factory story was taken (cf. Edwin Cannan’s footnote 4 on p.8 in Smith 1776/1950). Does there really exist much of a difference between the 25-stage needle production and the 18-stage pin production, *the prototype* of the division of labor principle due to the great influence of Smith’s (1776) justly celebrated system of economic analysis, so far as the division of labor is concerned?

## **2. Nasir ad-Din Tusi: life and scholarship**

Tusi’s life, though colorful and in no sense devoid of controversial episodes, is perhaps less interesting and impressive compared to his versatile scientific writings. As Wickens (1964: 12) succinctly puts it, Tusi’s intellectual and political life can be summarized as follows:

He early mastered all the various disciplines then constituting learning, but he showed a particular predilection for mathematics, astronomy and philosophy (it is important here that he was especially well-versed in the writings of Avicenna, d.429/1037). To dramatic notice he comes first in the service of an ‘intellectual’ Isma’ili Governor of Quhistan, for whom (as he explains in his preamble) the present work was written and entitled. Willingly or unwillingly, Tusi remained in Isma’ili employ at Quhistan, at the Alamut headquarters, and elsewhere, until 645/1247, when he finally succeeded in defecting to the all-conquering Mongols under Hulagu. Perhaps the only certain fact about this period of twenty years or more is that it was one of the most productive of his career. For the next seventeen years, however, Tusi is in the very van of momentous affairs, forming one of the remarkable band of Muslims who, so to say, stage-managed the Mongol take-over of many Islamic lands and the extinction of the Caliphate, but made possible thereby the continuance in new and flourishing forms of Islamic learning, law and civilization. During the last eight years of his life he resumed his scholarly publication, working particularly in the field of astronomy, at the great observatory in Maraghah (in Adharbaijan) which Hulagu had encouraged him to build.

One particularly important intellectual background of Tusi's writing of *Akhlāq-i Nāsirī* (*The Nasirean Ethics*) is the remarkable development of the literature of *adab* (general humanities learning) during the Abbāsid dynasty, in which philosophical ethics, heavily drawing upon Greeks' ethics and economics, plays a key part. Miskawayh (d.421/1030) appears to be the most influential figure on medieval Islamic philosophical ethics, and exalted notable influence on many, including prominently al-Ghazali and Tusi (Walzer, 1960: 328).<sup>4</sup> It is highly likely that due to the enormous influence of Maskawayh's *Tahdīh al-Akhlāq*, Tusi asserts that his *Akhlāq* is only restating Maskawayh's ethics, an assertion that significantly underrates the originality of Tusi's *Akhlāq* and can hardly be taken seriously, let alone the fact that the second and third Discourses of *Akhlāq*, respectively on economics and politics, are entirely lacking in Maskawayh's book (Siddiqi, 1963: 567; Wickens, 1964: 9–10). For Tusi, the latter two aspects are as important as the first to practical philosophy, and therefore they all should be, as they are in Tusi's book, treated as an organically united body. Tusi's *Akhlāq* became a popular read and many copies were circulated during his lifetime. Thirty years after its initial print in 633/1235, upon request from a reader, Tusi added a new preface and a chapter in its Second Discourse (household economics).

### **3. *Akhlāq*: the book and the fragment**

Tusi's *Akhlāq* consists of three parts (Discourses): ethics, economics (of household, à la the Platonian tradition), and politics, addressing human behavior respectively at the individual, household, and community levels. While the First Discourse, as mentioned above, draws upon Miskawayh's work, but contains originality of its own, the Second and Third Discourses respectively are under considerable influence of Ibn Sina (Avicenna) and Farabi (Siddiqi, 1963).

Most relevant to our purpose here is the Third Discourse, especially its elaboration of, and insightful observation on, social cooperation and the division of labor. What emerges from Tusi's analysis is a forceful call for a new branch of science, which may well be called political economy (of social cooperation and the division of labor). As is evident from its title, the opening section of the Third Discourse, consisting of eight sections, is an analysis 'on the reason of the need for civilized life (*tamaddun*) and an exposition of the nature and virtue of this branch of science'. Tusi's mastery in organizing his exposition has a familiar ring to modern academics.<sup>5</sup>

Tusi first investigates the necessity of mutual assistance of human beings and the economies to labor specialization, and regards such social cooperation

<sup>4</sup> Like Ibn Sina and Farabi, these three men are all Persians, with al-Ghazali and Tusi two even being of the same birthplace, Tus. The author is indebted to Hamid Hosseini for this interesting point.

<sup>5</sup> 'Tusi's addiction to conditional and syllogistic arguments may lead him at times to sentences extending over most of a page' makes rendering of his *Akhlāq* an arduous task (Wickens, 1964: 16). Nevertheless, Wickens highly regards, and even feels 'moved' by, Tusi's masterful logic construction (*ibid.*).

realized by the division of labor as the foundation for any possible civilized life, and indeed for the very survival of the individual and the species. Hence, ‘the human species is naturally in need of ... the combination called “civilized life” (*tamaddun*)’, in which transaction and exchange plays an important part. The term ‘*tamaddun*’ is derived from ‘city’, a particular association between individuals of various trades and crafts. It may be noted that Tusi is far from alone in emphasizing the importance of the division and combination of labor for civilization and in seeing social cooperation as such as the starting point of inquiry into ‘practical philosophy’ of human activities. Quite similar theses are found in the writings of Plato, Mencius, al-Ghazali, Ibn Khaldun, Francis Hutcheson, Turgot, and Smith (Sun, 2005), to mention a few leading thinkers.

Tusi then goes on to get to grips with the question of how to manage such combinations that make ‘civilized life’ possible. He contends that there are three major functions and components in such a management, which is called ‘government’ (*siyāsat*): enactment ('lawgiving'), public administration ('regulator', 'civil man'), and money (to ensure economic order and justice in exchange). What is most interesting is that Tusi assigns a supreme role to enactment, especially as regards contracts and transactions. It is also interesting to note that, to Tusi, one main objective of the ‘government’ is ‘to restrain each man’s hand from depredation and from infringement of the rights of others’.

Inquiry into functions and the operation of ‘Government’ leads Tusi to a separate ‘branch of science’, i.e. ‘politics’ or ‘political economy’ (*bikmat-i madani*, ‘civic wisdom’, see Wickens’ Notes 4 and 1874 in Tusi, 1964), which, in Tusi’s opinion, ‘is the study of universal laws producing the best interest of the generality inasmuch as they are directed, through cooperation, to true perfection’. It is plain that, for Tusi, the division of labor and exchanges on the one hand and the political structure underlying the economic activities on the other must both claim a central part in the study of ‘*siyāsat -e-mudun*’ ('government of the cities and their economic structures', refer to Ghazanfar, 2003: 170). As such, his inquiry into the doctrine of social combination and the division of labor has led him to a hitherto largely uncharted territory that would emerge as a separate subject of science in Europe in the seventeenth and eighteenth centuries – political economy (cf. e.g. Ghazanfar, 2003: 170–171 and footnote 18 on p. 181).

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## **Excerpts from *The Nasirean Ethics* by Nasir ad-Din Tusi**

**Translated from the Persian by G. M. Wickens,  
London: George Allen & Unwin LTD 1964,  
pp. 189–194<sup>6</sup>**

To summarize: the purpose of this detailed exposition is to show that the human species, which is the noblest of existent beings in the universe, needs both the aid

6 © George Allen & Unwin Ltd., 1964. The excerpts are taken from the First Section, 'On the reason of the need for civilized life (*tamaddun*) and an exposition of the nature and virtue of this branch of science', of the Third Discourse, On Politics. All the parentheses are added by the translator G. M. Wickens, sometimes for elucidation or emphasis and sometimes to make Tusi's involved arguments more readable. Every effort has been made to contact subsequent possible copyright holders for permission to reproduce the Fragment, but these efforts proved in vain because ownership of the work has frequently changed hands in recent decades. Upon notification, the JOIE Foundation Ltd. will make necessary and reasonable copyright arrangement at the first opportunity.

of the other species and the cooperation of its own kind to ensure the survival of the individual as well as the race. The demonstration of its need for the other species is surely evident, and there is no further necessity to develop it in this place. The demonstration of its need for the cooperation of its own kind is as follows: Let us suppose that each individual were required to busy himself with providing his own sustenance, clothing, dwelling-place and weapons, first acquiring the tools of carpentry and the smith's trade, then readying thereby tools and implements for sowing and reaping, grinding and kneading, spinning and weaving, and the other trades and crafts, and only then concerning himself with these weighty undertakings themselves. Clearly, he would not survive without food during all this time; and if his days were to be divided up among several occupations, he would not be capable of doing justice to any one of them at all.

But when men render aid to each other, each one performing one of these important tasks that are beyond the measure of his own capacity, and observing the law of justice in transactions by giving greatly and receiving in exchange of the labor of others, then the means of livelihood are realized, and the succession of the individual and the survival of the species are assured and arranged, as is the case in fact. Surely there is an allusion to this idea in the Traditions, where it is said that when Adam came into the world and sought sustenance, he had to perform a thousand tasks until bread was baked, the thousand and the first being to cool the bread, which he then ate. The same idea is to be found expressed by the Philosophers in the following way: a thousand hard-working individuals are required before one morsel can be put into the mouth.

Now, since the Man pivots on mutual aid, while cooperation is realized by men undertaking each other's important tasks fairly and equally, it follows that the diversity of crafts, which proceeds from the diversity of purposes, demands (a measure of) organization; for if the whole species were to betake themselves in a body to one craft, there would be a return of the situation against which we have just been on guard. For this reason, Divine Wisdom has required that there should be a disparity of aspirations and opinions, so that each desires a different occupation, some noble and others base, in the practice of which they are cheerful and contented.

Likewise, it has been ordained that there should be diversity in their states in such matters as wealth and poverty, quickness and stupidity; for if all be wealthy, they will not serve one another, as equally they will not if all be poor: in the first case, this is on account of their being independent of each other, in the second because of inability to pay anything in return for the service of one to another. Again, since crafts vary in nobility and baseness, if all men be equal in the faculty of discrimination, they will choose one class (of employment), whereby the other classes will remain vacant and the desired end will not be realized. This is what the Philosophers mean when they say: 'If men were equal, they would all perish'.

However, since some are distinguished by correct management and others by superior strength, one group by great dignity of manner and another by abundant capability (while some, devoid of discrimination and intelligence, are

virtually tools and instruments for men so endowed), all tasks are determined in the manner as observed; and from each undertaking his own important duty, the ordering of the universe and the organization of Man's daily life becomes act.

Now, since it is impossible to conceive the species to exist without cooperation, while cooperation without combination is an absurdity, therefore the human species is naturally in need of combination. This type of combination, of which we have already given an account, is called 'civilized life'. The term is derived from 'city', a city being a place of combination for individuals carrying on, by their various trades and crafts, the cooperation which is the means of procuring a livelihood. Just as we said, concerning Economics, that what was meant by 'household' was not a dwelling, but the combination of the inhabitants of a dwelling in a particular way: so here also, what is meant by 'city' is not the dwellings of the inhabitants of a city, but a particular association between the inhabitants of a city. This is what the philosophers mean when they say that Man is naturally a city-dweller, i.e. he is naturally in need of the combination called 'civilized life'.

Now, the motives for men's actions differ, and their movements are directed to varying ends, e.g. the intention of one will be to attain a pleasure, whereas that of another will be to acquire an honor: thus, if they are left to their own natures, no cooperation can conceivably result among them, for the domineering man will make everyone his slave, while the greedy will desire for himself all things that are acquired; and when strife befalls among them, they will concern themselves (only) with natural destruction and injury. Necessarily, therefore, one requires some type of management to render each one content with the situation which he deserves and bring him to his due, to restrain each man's hand from depredation and from infringement of the rights of others, and to concern itself with the task for which it is responsible among matters pertaining to cooperation. Such a management is called 'government'.

We observed in the First Discourse, on the subject of Justice, that in the government there is a need for the Law, for an arbitrator and for money. Thus, if such management is in accordance with the obligation and principle of Wisdom, leading to the perfection which is in potency in species and individuals, it is called Divine Government; otherwise, it is related to whatever else may be the reason for such government.

The Philosopher Aristotle has divided simple types of government into four: government of a king; government of domination; government of nobility; and government of the community.

Government of a king is the management of a community in such a way that virtues accrue to them, and this is (also) called 'government of the virtuous'. Government of the domination denotes the management of the affairs of the base, and this is also called 'government of baseness'. Government of nobility is the management of a community noted for the acquisition of nobility. Government

of the community denotes the management of different factions according to a rule established by the Divine Law.

The government of a king distributes these other types of government to those concerned therewith, calling each category to account for its particular government in order that their perfection may pass from potency to act. Thus this form of government is the Government of Governments.

The connection between government of a king and government of the community is to be explained as follows: the government of some depends on enactments, as with contracts and transactions; while that of others depends on intellectual judgments, as in the case of the management of a kingdom or the administration of a city. But no one would be able to undertake either of these two categories without a preponderance of discrimination and a superiority in knowledge, for such a man's precedence over others without the occasion of some particularity would call for strife and altercation. Thus, in determining the enactment there is a need for a person distinguished from others by divine aspiration, in order that they should follow him. Such a person, in the terminology of the Ancients, was called The Professor of the Law, and his enactments the Divine Law; the Moderns refer to him as the Religious Lawgiver, and to his enactments as the Religious Law. Plato, in the Fifth Discourse of the *Book of Politics*, has referred to this class thus: 'They are the possessors of mighty and surpassing powers'. Aristotle, again, says: 'they are the ones for whom God has greater concern'.

Now, in determining judgments, there is a need (also) for a person who is distinguished from others by divine support, so that he may be able to accomplish their perfection. Such a person, in the terminology of the Ancients, was called an Absolute king, and his judgment the Craft of Kingship; the Moderns refer to him as the Imam, and to his function as the Imamate. Plato called him Regulator of the World, while Aristotle uses the term Civic Man, i.e. that man, and his like, by whose existence the ordering of civilized life is effected.

In the terminology of some, the first of these person is called Speaker, and the second the Foundation.

It must be established that the sense of the term 'king' in this place is not that of someone possessing a cavalcade, a retinue or a realm: what is meant, rather is one truly deserving of kingship, even though outwardly no one pays him any attention. If someone other than he be carrying on the management of affairs, tyranny and disorder become widespread.

In short, not every age and generation has need of a Professor of the Law, for one enactment suffices for the people of many periods; but the world does require a Regulator in every age, for if management ceases, order is taken away likewise, and the survival of the species in the most perfect manner cannot be realized. The Regulator undertakes to preserve the Law and obliges men to uphold its prescriptions; his is the authority of jurisdiction over the particulars of the Law in accordance with the best interest of every day and age.

From this it is evident that politics (which is the science embraced in this Discourse) is the study of universal laws producing the best interest of the generality inasmuch as they are directed, through cooperation, to true perfection. The object of this science is the form of a community, resulting by virtue of combination and becoming the source of the members' actions in the most perfect manner.

Now the master of any craft considers his craft in a manner relevant to that craft, not whether it is good or evil. Thus, the physician regards the treatment of hand from the standpoint of acquiring for that hand an equilibrium by means of which it becomes capable of grasping, without regard as to whether such grasping be of the order of good or evil things. But the master of the present craft considers all the actions and works of the masters of (other) crafts from the standpoint of their being good things or evil. Thus, this craft is supreme above all crafts, and its relationship to them is like that of theology to the other sciences.

Now, since the individual members of the human species need each other for the survival of both the individual and the species, and inasmuch as their attainment to perfection is impossible without survival, therefore they need each other in order to attain perfection. This being so, (it follows that) the perfection and completion of each individual is dependent on the other individuals of his species. Accordingly, it is incumbent upon him to associate and mingle with his own kind in a cooperative manner; otherwise, he has deviated from the principle of Justice and become characterized by the mark of Tyranny. However, association and mingling in this way can only occur when he has become aware of the circumstances governing those modes that lead to order and those that lead to corruption, and when he has acquired the science that assures a knowledge of each separate species. But this science is Politics. Thus, every person is compelled to study this science in order that he may be capable of attaining virtue. If it be otherwise, his transaction and association will not remain free from Tyranny, and he will become a cause of the world's corruption in accordance with the measure of his rank and station. Once again, the all-embracing character of the benefit deriving from this science becomes obvious.

Just as the master of the science of medicine, being skilled in his craft, becomes capable of preserving the health of Man's body and removing disease: so the master of the present science, being skilled in his craft, becomes capable of preserving the health of world's constitution (which is called 'true equilibrium') and removing therefrom any deviation. In reality, he is the world's physician.

In short, the fruits of this science are the diffusion of good things in the world, and the removal of evils, in the measure of human ability.

We have said that the object of this science is the form of combination among human individuals; but the combination of human individuals varies both generally and in particular; thus, it is necessary that one should know the sense of the term 'combinations of individuals' in each separate regard. We say: the first combination occurring among individuals is that of the household, and

this has been explained already; the second combination is that of the people of a locality; this is followed by the combination of inhabitants of a city; next comes the combination of great communities; and finally the combination of the inhabitants of the world. Again, just as each individual forms part of the household, so each household is part of the locality, each locality part of the city, each city part of the community, and each community part of the inhabitants of the world.

Each combination has a head, as we observed in relation to the household: but the head of the household is subordinate relative the head of the locality, the latter is subordinate relative to the head of the city, and so on until one reaches the head of the world, who is the Head of Heads; and he is the Absolute King. His consideration of the world's state and the state of its parts is like the physician's consideration of the individual and the parts of the individual, or like the household's consideration of the state of the household and its parts.

Whenever two individuals are associated in a craft or a task some form of headship establishes itself between them; that is to say, the one who is more perfect than the other in that craft becomes the head, while the other individual must obey him in order that he should become directed to perfection. Eventually, all individuals terminate in one individual, who is by merit the Absolutely Obeyed One, the one imitated by the species; or in a number of individuals in like case with that one individual as regards the unity of their opinions on the best interest of the species. Moreover, just as the Head of the World considers the parts of the world in accordance with his attachment to the generality of the parts, so the head of any combination has a regard for the generality of that community of which he is the head, and for the parts of that combination, in such a manner as effects their well-being first and in general, while also effecting the well-being of each part secondarily and in particular.

The attachment of combinations one to another is of three kinds. First comes the case where one combination is part of another combination, as with household and city; secondly, where one combination includes another combination, as with community and city; and thirdly, where one combination is the servant and aid of another combination, as with village and city (for the combinations of the inhabitants of villages are defective, inasmuch as each one, in a different category, renders service to the complete civic combination). In these three modes, the aid of combinations to each other is by way of matter, instrument and service, as with the aid rendered to each other by the species – and of this we have already spoken.