

WINGS OF UNDERSTANDING

WHY IS SCIENCE WESTERN?

INTRODUCTION

THE INVITATION OF MAIMONIDES, IBN HAZM AND BACON

“The good researcher is like the bee which collects storage in the gardens and fields, but it also can refine its collection. Facts that have been found one should not distort to be in accordance with ones own wishes if one wants to reach real information. The land of God is achieved by means of the undistorted mind of a child - so is the destination reached also in science.”

Francis Bacon

Why do we call science “Western”? This definition seems natural to us. The history of science gives a sufficient entitlement here. Also the world-view and philosophy of the Muslim scholars/scientists of the Middle Ages were closest to “Western”.¹ However, “Western” as a mental substratum was limited already in modern times from Russia, to the area through Europe, to the west coast of the continent of North and South America. In addition to the natural sciences, we also call democracy and the structures of our economy “western”. Mankind around the world reaches for all this.²

The appreciation of women, children and individual freedom also form some of our characteristics and they are the most difficult to adopt. This transformation was also laborious for our own development.

We have hardly ever tried to find an explanation for our front position. We are fortunate to have been born and to be able to join this victorious adventure and expedition. The richness of the creation is fainting, the further it opens up to our understanding. **Albert Einstein** estimated that “the eternal mystery of the world is its intelligibility... it is a wonder. By growth in our knowledge this wonder will become still deeper”. In the research into the creation and its laws we have reached depths where, with good reason, we could experience to be masters!

The depth of our failing is shown however, by the fact that we so

¹ Nicholas Rescher : Studies in the History of Arabic Logic.

² According to Francis Fukuyama, the waggons of all nations make an attempt, one after another, to steer their course “to a sheltered town”, within the sphere of Western technology and democracy.

strongly believe that we have reached the present state of understanding by our reason alone. We no longer regard as sensible the question which fascinated earlier Europeans: "Why is it that Christians and Jews have mainly alone (almost solely) led the development of science". Furthermore, we are slaves of our own selves and aim at mastery of the world without an adequate sense of responsibility.

We are living in a time in which the voice of **Karl Marx** is still heard: "What a certain land means to foreign gods so the land of reason to the God in common, an area where his existence ceases".

However, even if we know that the god of reason deceived Karl Marx himself, we believe in the same division in which the natural sciences and their progress belong to the area of reason and science, but **Jesus Christ** and His Father to the agents of the church - to the narrowing margin group of our western culture. As enlightened Europeans we no longer think of the universe in terms of God's omnipotence. Certainly we think that such beliefs are suitable for infants.

One of the greatest geniuses in Islamic/Muslim Spain, the Jewish philosopher **Moses Maimonides** (1135-1204) posed a universal challenge to the Jewish intelligentsia of his time.³ Like **Stephen Hawking** today, Maimonides aimed at the world of belief and the reason which gives the answer to the mystery of universe, the creator and administrator of which is Yahweh, the sensible, rational and sovereign God of Israel. He taught them:

"Belief is possible only if the understanding of the matter precedes it. Because belief is the strengthening that what has been understood in mind, exists exactly in the same way in reality, outside the mind. If furthermore, a certainty is connected to this belief with the fact that no different belief is possible, in other words that no starting-point to the overturning of this belief exists or supposition that the opposite belief would be possible, the certainty will then exist that the belief is true."

Fundamental observations

Maimonides invites us to examine the Bible, the history of mankind and the history of science! He does not aim at speculation on the god-myth, it rather tunes a thought of the God of history. The Jews form about 0.3% of mankind but among the Nobel prize-winners in science their share is more than 20%. Could this obvious superiority provide support for the idea that it is Maimonides' God who is behind this wild, rich creation? Why have the Jews been allowed to suffer so much if they are God's Chosen People? Moreover, why have they reached the top during the last few centuries?⁴

Furthermore, Christians have been the actual guides of mankind, power factors of the science of the whole modern period. So why were Muslims more eminent than Christians in the Middle Ages, for centuries, if the superiority of Christians in the understanding of nature was bound up with the fact that they also believed in the God of Israel? Muslims do not believe in the Saviour of Christians, nor do the Jews, even though he himself said that he was their Messiah. However, one uniting factor in this triplet is: they are all monotheists whose God is a Person, the Creator of nature and the whole universe.

In the case of a universal solution where the agent in the history of the ascent of science was a monotheistic world-view, the Greeks, the founders of western science, are thought to be the primary touchstone. This

³ Maimonides' motive was to keep the Jewish community together.

⁴ The genius of the Jews certainly appeared during Old Testament times - and also when they were lived and worked in an Islamic community.

question becomes easier if attention is paid to the fact that the Greeks' interest in the natural sciences was born when the image of god held by the intelligentsia began to express, at a certain level, the sovereign Creator.

The Indians, whose image of god contains no monotheistic elements, raises a new question because their mathematical contribution to the start of western science was important even though they were unable to examine nature itself. Indian mathematicians are becoming significant again in the modern world.

India's paradox is partly resolved by paying attention to the fact that an interest can be taken in mathematics and it can be developed without any connection to the realities of nature. This perhaps also explains Indian mathematical abilities, which have been emphasised during her period of westernisation. Until the last decades the Indian world-view has been strongly directed from this world to metaphysics.

China poses the greatest mystery. Why did its share in the development of the natural sciences come to a stagnation in antiquity. On the other hand, China's example gives strong support to the theory that complete withdrawal from metaphysics can lead to an inability to make crucial breakthroughs in the natural sciences.

The Chinese became "rational" but nevertheless were not interested in either Indian logic or western natural science. According to the Chinese' own estimate, as late as the early 20th century: "China has no science, because according to her own standard of values she does not need any..." But their own tragic statement is also the fact that "China has not discovered the scientific method, because Chinese thought started from the mind, and from one's own mind." "In the history of mankind it no greater cultural and scientific possibility has ever been lost than has occurred throughout/in the history of China."⁵

Was the birth of developed civilisation a matter of chance?

In the history of the science there is, in addition to the matters mentioned above, a considerable number of stimuli for examining how the monotheistic world-views have influenced to the triumph of the said communities in the natural sciences.

Islamic Spain produced another genius, Ibn Hazm, who appreciated the importance of the study of history. To him history meant a great challenge in clarifying the secret hidden by it. "The inner significance of history is a need for thinking and an attempt to achieve, in connection with the truth, profound knowledge by means of the discreet settling of the present matters and reasons."

Francis Bacon,⁶ the seer of future science, dismissed a general conjecture that research would promote disbelief. "If one only tastes the drink of knowledge, that may be the case, but if one drinks a lot of it, he will again come to the belief. Our generation can be saved by resorting to two means: to the belief which returns it to innocent and happy initial state and to natural science. The task of the natural sciences is to restore to the human being the mastership of nature which it had lost in the Fall.

When starting out to discover an explanation for our superior development in the natural sciences, attention must be paid to our culture and in addition to the world-view it has created in us, also for western human beings as individuals. If we could, for instance, examine the man of the early Middle Ages and modern man side by side - a Viking and a Finnish engineer - we would probably be surprised at the personal development which has taken place in the Finn. As a point of comparison we could take Chinese or Indian society and the stiffening which took place centuries ago in them.

⁵ Stanley Jaki: Science and Creation

⁶ Francis Bacon 1561-1626

The world-view of the Viking, as well as his own person, changed. By comparison, one can say about many Asian cultures that they have retained their world-views and the characteristics of their members at the level of antiquity. Here the effect of communities and cultures are manifested because they shape individuals in unexpected ways, and the development of the community as a whole, through their behavioural norms. These changes can further regulate rational creativity, through the construction of the brain, even more strongly than genetic factors.⁷

Ernst Kretschmer claimed that genius was a hereditary feature, racial properties affecting the emergence of geniuses.⁸ Concerning this he states: "Who knows when a new bloom again begins in the wilderness of Babylonia and Arabia or in Egypt and China?... Life is a single big breath and it does not know anything about our minor periods of history, cultures or individuals. First of all and above all it knows nothing about the self. Life bursts to the flower and withers and flourishes again and for what does it flourish and wither? We don't know."

Kretschmer's doctrine of cross-breeding seems sensible as the factor in the birth-mechanism of some cultures but his idea of the sudden appearance of cultures is superstition rather than science. Chance probably connects genes but already the massive migrations of peoples are often a manifestation of a certain conformity to law, consequences of turmoil in cultures, for example.. Degenerating cultures have drawn neighbouring nations through the ages to dividing the spoil, as Rome attracted the numerous barbarian tribes from the north.

Oswald Spengler believed that the same truths were relative and that the theories valid for example in relation to western mankind would not be relevant in the case of antiquity or the Indian world. Following the developmental philosophies the social Darwinism has controlled western minds for more than a century, by means of the idea that man is the creation of either regulative nature or the social environment.⁹ Spengler believed that cultures were like organisms which increase, live and die out. Our own culture, too, would perish like the world of antiquity.

The history of science and technology does not lift up society as its most essential agent, but rather, as in the judgement of **Arnold Toynbee**, the minor factors - an individual and his history. Toynbee, one of the best-known historians of the 20th century, rejected the environment as a determining factor of the birth of a culture. He supposed a creative minority to be the one building and maintaining the culture while the majority of the community imitated them. Each culture grows to have certain characteristics peculiar to itself. Toynbee rejected the possibility that a community which lives a rich and easy life could create a culture. The most fertile environment is challenging. It requires the readiness "just to a certain amount" of pain, trouble and inspiration.

The ruling minority is insignificant as regards creativity, because it affects the establishment of a universal and peaceful state in society. The lack of the ability to react, is however, always a reason for the disintegration of a culture - its suicide. Toynbee believed in the "existence of final truth" and in the development potential of

⁷ According to modern brain research, the generation of human brains is guided not only by genetic information, but also by the information which is created in interaction between the individual and the environment. The tracks of our thoughts or our possibilities thus far to promote the natural sciences do not differ for example from the Chinese solely for genetic reasons but above all because of the mutual differences between the two cultures.

⁸ The key to the theory of E. Kretschmer is the mixture of races; for example, in Central Europe he lifts up the northern race and races of the Alps, which rise over the others - "even though just their border districts give birth to those wonders".

⁹ But if the essential roots of the rise of Spenglerian cultures are found by then the conformity to law which is universal is perhaps found.

humanity¹⁰ in general. The successful mankind of the future was based on brotherhood, in subordination to the God of love.

Emergence of the pioneering individual

How then can Toynbee's creative minority originate? If a community marks off the creativity of the individual, the bonds will often be centuries¹ old, comparable to the magic sphere. The process, therefore, in which the first individual - the pioneer - is released from his chains in a revolutionary way must proceed (derive its origin) from his own discovery. The creative minority will originate, the whole new process will be started by the pioneering individual as *primus motor*, encourager and pattern (model).

Where does the pioneer derive his primary stimulus from? Why does he possess such freedom of thought that he can see the value of his discovery? Why does he venture with his innovations to deviate from the rest of the community? He has found a new paradigm, a new way of viewing matters, a way written in letters of fire. The greatest wonder to him seems to be why others do not see what he can see.

The preconditions for the emergence of a pioneering individual are paradoxical - they are always paradoxical - even though they arise from his immediate surroundings. His daring act arises from the differing conditions, such as "occasional" (exceptional) toleration and encouragement. The possibility and motive lift up the creative idea to its wings. The personal development of **Anselm of Canterbury**, with the benefit of his own childhood experiences, introduced Europeans - especially the monastic orders of the 11th century - to a new era, an age of self-discovery.

Also in events related to the emergence of a pioneering individual¹¹ there is to be found an element of "chance", as in the theory of Kretschmer. But even the sudden appearance of a creative minority is not sufficient to explain the development of Western rationality. In addition to human development the progress of the natural sciences also has as a precondition the viewing of nature as rational and secure - and here there is in the world-view of the community a decisive significance, either positive or negative. The development of the image of God among the Greeks¹² reduced the fear of "magic in nature", towards the fear created by the richness and multifariousness of nature. Interest and eagerness overcame fear - and the natural sciences were initiated.

Also, the development of science in modern times began once its proponents had been released from the fear of "magic in nature". The crucial change was not so much technological or intellectual as psychological. The Christian representatives of experimental natural science acquired from the recent development of this new mechanical philosophy¹³ an enormous confidence in their ability to command nature. It is paradoxical that correspondingly the Chinese world-view, concentrating specially upon this world shackled the trains of thought to the world of magic.

Liberation to a new world-view

Moreover, the dazzling insight of the value of a new world-view can be the activator of the process - the creator of the pioneering individual. The revolutionary individual at the same time shapes a new world-view by means of his discovery. The

¹⁰ Henri Bergson strongly emphasises the share of the individual and moves the question from the mechanism of creativity to a new and more profound area. However, he also set limits to the significance of humanity, saying that "only the sanction of the genius makes an unreacting (inert) humanity to produce".

¹¹ The pioneering individual is normally also genetically gifted.

¹² The Ionians were also pioneers among the Greeks in this area of culture.

¹³ The foundation of the mechanical philosophy of Descartes and Boyle, however, was in their interpretations of the observations in nature - and especially in the Christian world-view.

sudden transition of **Johannes Philoponus**, in 529, from the ranks of the Neo-Platonists to a critic of Aristotelian thought is connected with his new positive attitude towards Christianity. Philoponus foresaw the laws of motion a thousand years before Galileo Galilei.

The paradigmatic change in the thinking of Philoponus was one of the signs which indicate the birth of the new era - even a new world. The man of antiquity still felt that he was bound to nature and imprisoned by it,¹⁴ but the Christian examined the nature as an independent subject. This same feature can also be seen in Jewish culture.¹⁵

The stimulus provided by Philoponus is reinforced when we pay attention to the change in the Arab world. Within a couple of generations after being converted to monotheism they became the researchers of the creation. The world-view of Muslim intellectuals later changed concerning the Creator paradigm and at this stage it also lost its leading position to the Christians.¹⁶ If the monotheistic image of God¹⁷ universally and especially the discovery of Philoponus - the rationality¹⁸ of Christianity - really were preconditions for the understanding and utilisation of the creation, then an explanation would still have to be found for the question why Christians were not, for centuries, able to utilise the discovery of Philoponus. Why was the awakening of Christian Europe so slow, compared to the rapid rise of Islam? Spengler's judgment of the effect of the environment comes to our aid here, because it also fits Toynbee's theory at the individual level. The development of young Christian Europe stagnated, especially by the effect of the environment - and soon after the lifetime of Philoponus came to a standstill.

It seems daring and downright senseless to seek an unambiguous solution - a key process or at least group of factors - to these complex questions. Why in the event was it Christians who carried the development of the natural sciences to the measures of this kind? It seems even more difficult to show that the brake on our development is to be found in the Middle Ages. The task appears even wilder if one wishes to show that the conformity to law which in the Middle Ages prevented our own development were primarily universal features in all the cultures which have stagnated! If were to find something - then, why should we not learn about it and perhaps prevent the doom predicted by Spengler's theory?

A rough hypothesis concerning the staggering question

The exploration will be started from the fields of the world-view and social psychology. Monotheism and especially the Christian world-view would have to be proved to be a tool with an universal effect. One must, however, later return to this question of world-view. The socio-psychological element of the brake in the Middle Ages should be brought up immediately.

Could we find in social history a "suitable" feature, a positive effect - perhaps a pair of factors - which would appear in connection with the rise and development of a civilisation? These features would be obvious among others in the wake of the culture of the Greeks, Muslims and Christian Europe. On the other hand, is there any part in the jigsaw puzzle of social history of mankind for which a place has not been found, or which has been crammed into a hole where it does not belong. Can we find a distortion in history, an anomaly which would have been a painful question in all ages and would have demanded a solution? In the right solution the key piece transferred into the right place would also correct the whole in a more sensible way.

¹⁴ This was also characteristic of the Greeks.

¹⁵ This typically Western (Judaean-Christian) characteristic is still unfamiliar to the Hindus who have not imbibed Western influences.

¹⁶ Neo-Platonism became one of the dominant factors in the thought structures of leading Muslim philosophers.

¹⁷ A picture of the personal almighty Creator.

¹⁸ The rationality of Christianity is not the same as Chinese (Confucian) rationality!

Let **Montesquieu** be the first to open the curtain of the mystery. When comparing family structures among different nations, he has noticed "it is luck to live in the European climate which will allow women's appearance free for discussion and for the cheering up of her environment. What purpose would serve closing women away from society in the northern countries where their ways are naturally good where all their passions are calm and where love dominates a heart so continuously and nobly."¹⁹ **John Stuart Mill**, in turn, estimates that the women of harems consider their European sisters to be intolerably courageous and unwomanly. Montesquieu's woman of the new Europe was already partly liberated, while said a woman in a harem was more bound than the Arab woman during the advance of Islam. Then the high point of the culture of the Arabs had already passed hundreds of years earlier.²⁰

She is the key factor: mother, wife, sister, daughter. What could the perfect history of mankind tell about their fate and role! If one were to search in history for another great tragedy and dilemma compared with the history of women, it is to be found in the lack of rational creativity which still dominates to a great extent outside the Western countries. This stagnation of the development is closely connected with the tragic lot of women - with the absence of opportunities to influence these communities.

The woman's entry as an agent into European life is a unique event in the history of mankind. In addition to her own direct contribution²¹ to the community she has furthermore influenced the person and creativity of her husband and other male members of the community. The success of the change requires a condition on the husband's part. Does it develop a union developing both parties when the master and slave meet each other? When the woman changes, when she is released, the man too will change. It is obvious that, when a man now appreciates the woman's special gifts in a new way, he also begins to appreciate analogous features innate in himself - usually, however, more weakly manifested in him.

Jean Jacques Rousseau²² was fascinated as to how two such similar creations, man and woman, were so perfectly different from their essence. Perhaps an even more significant effect, from the point of view of the creativity of an individual and community is in that possibility which the woman will have if she is allowed to influence - through her special gifts, such as empathy - the members of the community in their childhood. If furthermore, the child's value as an individual rises, the contributions of the creativity of the community will increase further.

Also, the emergence of the pioneering individual is connected in some way or other with the entry of the woman's essence as an agent. The precondition for the transition to the new paradigm is the tolerance in mothers and wives - and that feature in particular is one of the most essential features which increase the creativity of the community and individual. When **Hegel** experienced in the 19th century that "we are on the threshold of the important period, time of agitation, in which the spirit takes a leap forward..." he estimated that mankind was just reaching the zenith of its development. Friedrich **Nietzsche** speeded up the thought: "We are at the peak, we are at the peak, we are the nature on the stage of its perfection." Why did the spirit of the life come forward during Hegel's lifetime? The same question rises from the awakening of **Dante's** Italy and **Anselm's** France? The entry of the woman and of her special gifts directly or indirectly affected all three turning-points, Romanticism in Hegel's day, to the world of experience

¹⁹ Montesquieu: The Spirit of Law 258

²⁰ The woman of the harem in the 19th century monitored by J. S. Mill.

²¹ Marie Curie is one of the numerous examples of women's direct contribution to the development of the science. Compared to men, women's exceptional curiosity is one of the characteristics needed for research of nature.

²² Rousseau (1712 -1778) stated, however, that French culture rapidly changed the properties of the young girl - and as she grew older, she no longer differed so much from the man.

of Anselm and the Italy of Dante. Among others, the bold thoughts of Hegel which arose with the wings of Christianity absorbed their power from the experience of love,²³ qualitatively new in the whole of Europe.²⁴

Doubts and claims

It is generally admitted that questions considering woman and the value of the child have been, through mankind, the stumbling-blocks encountered by the men of communities. So our study will indeed find depressingly few signs of women's influence in the Italy of Dante, not to mention the Middle Ages. If the entry of the woman's gifts could be shown anyway to be the key operator in the creativity of Europe during the Middle Ages, why did Christians not appreciate her earlier? Furthermore, how could any part of the woman's contributions be the key factor of the rational creativity if, for example, Confucius branded women "as totally irrational beings" with whom it was often as difficult to get on with as with the servants.

How can the woman's special gifts be lifted as a positive agent to the emergence of the Muslims' high culture, if **Averroes**,²⁵ for example, accuses his contemporaries of reducing their wives simply to the "level of plants" when using them only for the continuation of the (family)line. "It fills a Muslim with wonder when he sees a Christian woman feminine, charitable, able, calm and who is also able to check her anger. He knows that Islam has never produced such a woman."²⁶ Each culture most probably creates its own woman, a most multiform selection. But Muslim culture too had experienced great changes - and Averroes gave its criticism when the culture was already approaching its twilight!

If the Greeks created the foundation of the whole of Western science and if the Greek woman had a share in that - why was the wife of the Athenian family hidden in the darkness of her home, particularly during the bloom of culture and scientific thinking? The women of Athens did not receive an education and therefore the men had to look for intellectual company outside the home. But again here we can notice, that **Platon** and **Aristotle** were the "evening stars" of their culture.

In Greece, in Ionian culture the speed of development which took place - when it is connected with an expected, differing social "finding" - will support the idea of the discovery of the right key. In addition to the change in world-view and the image of God any intellectual finding or the power which is based on the improvement of living conditions would not bear fruit so soon.

A more exact study of the developed civilisation, the rising stage of the culture, will reveal many new details in regard to these questions. The Italian renaissance in the 13th-15th centuries has deviated so much from the development of the rest of Europe that it cannot be interpreted as the fruit of the rapidly growing economy or of renewed interest in the humanism of antiquity alone - nor in any case as a consequence of the following of the model given by a preceding culture. Dante's Italy created a new one!

If an attempt were made to claim that the wave of creativity or even humanism, in the Italy of Dante and **Petrarch**, was a consequence of the sudden rise of the values of feminine or childhood, the thought would be considered a misrepresentation of history.

²³ For Hegel, love was a condition for the birth of the perfect individuality. "Man and wife are becoming self-conscious just when honouring (confessing) one another as equals." Instead of being captured by the mentality of mastery or slavery they are released and they reach the optimum performances.

²⁴ Mme de Staël stated that the German man changed during one generation from "clumsy and morally and outwardly fusty to creative and liberated in his thoughts, when being compared him to man in France shaped by the spirit of the sterile, antifeminine enlightenment."

²⁵ Averroes d. 1198

²⁶ This is the estimate of a Muslim concerning women of his own culture. He confessed this perception to a Christian missionary about 100 years ago.

However, "in the history of childhood" there is a clear display of the wave of empathy of the 13th century. If the idea of the wave of empathy of childhood, as an agent, is correct, at least in its direction, could then also the strong representation of Italians at the University of Paris be a consequence of this experience of a different, positive childhood?²⁷

Perhaps the most significant philosopher of science in the 19th century, **William Whewell**, has paid attention to the fact that the low (valley) areas of science are typically periods of time where the utilisation of an inductive thinking process is rare - the intelligentsia solely utilise deduction and processing ideas in their thinking.²⁸ This feature, the utilization of an inductive thinking process and/or understatement of such a thinking process, divides the most significant developed civilisations into two groups: those that are successful in the natural sciences and those that have stagnated in this development.²⁹

Estimation of the group of conformity which perhaps regulates the natural ability of a community and its members to process its thoughts by inductive means may remain a mystery until the factors piece by piece rise to be tested when one proceeds from one culture to another. **Samuel Coleridge**, a 19th-century Englishman, estimated that a human being is unavoidably born as either an Aristotelian³⁰ or a Platonist. The low (valley) areas of empiricism and of the inductive line are, however, in most cultures, throughout history, so long and regionally dominant that this thought of Coleridge does not seem reliable.

The complexity of the history of natural science is a sufficient ground for the fact that it is better to bring out the estimates of the smaller accelerators or brakes of development only when centuries and cultures uncover them. In spite of this simple introduction to the main hypotheses, at the first stage, the general view opens slowly, like peeling an onion.

The share of the Christian world-view and woman and child can be often seen only as a souring agent³¹ - but the patience of the researcher in this matter will be rewarded. Interrelating of the connection of these three elements - the special appreciation of the woman and the child, as in the Christian communities³² - emphasises how different the Western community is in its essence. Especially Jews and Christians would have a reason to re-write history and especially from the point of view of the development of science and influence (on it) of the change which has taken place in man. In addition to examining the reasons for our progress, a knowledge of history is necessary in order to know how to proceed in the right direction in our own time - in a thickening jungle of world-views and in the midst of the rapid secularization of western Christendom.

The book in your hands is not a doctoral thesis. It is rather an intuition which however has been published in a sure tone so that the weak, fluttering new flame might not die out immediately after it is lit. The ideas and findings of the book are an encouragement to a new view in the development of the human thinking of the history of mankind - on the way to uncovering the great mystery.

²⁷ This firmness appeared, among others, in the success of Bonaventura and Thomas Aquinas.

²⁸ Whewell: There are considerably more great mathematicians in history than geniuses who have made breakthroughs in the physical world.

²⁹ William Whewell: Selected Writings in the History of Science Ed. Yehuda Elkana 12

³⁰ Aristotle was the representative of empiricism and using the method of inductivity - Plato, however, was a proponent of rationalism and deductive thinking.

³¹ All three factors must, however, work sufficiently "in its task".

³² This different appreciation of women and children, rare in mankind, was realized first of all in the Christian culture.