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CHAPTER ONE

On the Rhetorical Point of View

1. Why rhetoric declined, and what remained of it

1.1. Once upon a time rhetoric was a vast and influential branch of learning, closely tied to Grammar and to Logic within the famous mediaeval *Trivium*. Nowadays it does not appear in research programmes nor in curricula, and historical studies alone mention it as a venerable monument of the past. On the other hand, the career of its sister disciplines Grammar and Logic has been a real success story.

Grammar evolved into an immense field of linguistic studies, both theoretically pregnant and fruitful in applications, related to logic and mathematics, to empirical areas such as psychology and sociology, as well as to neurophysiology and computer science. **Logic** has proved a still greater success. After having been built on algebraic principles (which Aristotle himself did not dream of), it essentially contributed to building modern unified mathematics, opened up new prospects to philosophy, and paved the way to the idea of computers.

Why did rhetoric fail to match the advances of its relatives? There is no simple answer to such a question. However, in order to define my 'rhetorical point of view' as held in this essay, I should attempt to suggest a sketchy answer. A more detailed account would require thorough research, for **rhetoric** was deeply involved in the course of cultural and political history. It is why to substantiate any hypothesis regarding this issue would mean engaging in a comprehensive historical study.[1]

[1] Worthy of mention here is the monumental eight-volume study by the Polish historian of mediaeval philosophy (and my university professor and master)

1.2. Rhetoric more than Logic or Grammar was involved in political, social and cultural circumstances of past periods which no longer exist in our times. For example, a politician's image is nowadays more shaped by his TV appearance than by his ability to form long decorative phrases in his speeches. There was a time when rhetoric served that special form of democracy which was characteristic of city-states or free cities in Antiquity, and in mediaeval and Renaissance Europe. However, modern democracy requires other means of influence.

One should also take into account the increasing differentiation of political and cultural life. In view of that process, as opposed to the situation in former periods, no universal methods of persuasion can nowadays be recommended to speakers and writers. Such methods, as codified by Aristotle, Quintilian, Cicero et al., were unanimously believed throughout centuries and millennia to be unquestionably valid. Now we are perfectly aware that one must argue in quite a different manner, e.g., when addressing an EEC committee, and when negotiating with Muslim fundamentalists.

This new awareness must have dawned in the 17th century when travellers and missionaries discovered cultures and mentalities so much differring from ours; certainly, Cicero's rules of persuasion proved of no particular use when faced with a Chinese or a Guarani audience. Both of these audiences exemplify the Jesuits' successful art of arguing, far from orthodox rhetorical prescriptions. In China, Jesuit missionaries had considerable success in convincing rulers and mandarins of the high scientific and technical performances of Western civilization, thus arousing respect for Christian ideas. In Paraguay, Jesuits managed to transform Guarani Indians

Stefan Swieżawski *Dzieje Filozofii Europejskiej XV Wieku* [The History of European Philosophy in the 15th Century]; the first five volumes were published by The Catholic Theological Academy in Warsaw, 1974-1980. In spite of being written in Polish, the work may prove useful to a non-Polish reader due to abundant references as well as quotations in main European languages. There are partial translations of this work into French and English; a synthetic version appeared in one volume in French, see Swieżawski [1990]. Other versions, corresponding to particular volumes of the Polish edition, are to appear. This work is especially useful for studying the history of rhetoric since the 15th century, as combining the mediaeval heritage with revived ideas of Antiquity provides us with a wonderful image of rhetoric's former power and glory.

into docile and devoted Christian converts who obeyed orders to farm the land, build churches, and perform some administrative tasks for their community. Certainly, the Fathers did not consult either Aristotle or Cicero.

In spite of the flourishing state of rhetoric in the 17th and the next century, the widening of the world beyond the boundaries of the Graeco-Roman culture must have intiated the process of decline. Furthermore, in the 19th century the rise of new branches of learning, as ethnography, sociology and psychology, contributed to the art of dealing with people by taking into account their social and individual peculiarities. But even if people no longer expect authorative answers from the old rhetoric, there does remain the rhetorical problem of *how to convince someone of my ideas*. Thus there remains a **rhetorical point of view**.

What nowadays can be seen from that point is far from the ancient or mediaeval rethorical landscape. Nevertheless, it is that old rhetoric to which we owe our present ability to see and to state problems — e.g., that of relations between logic and rhetoric; in this example one may see how new answers are due to our inheriting some old questions. And where problems arise, we can investigate them in a manner that would suit our present ends and interests.

1.3. The same 17th century witnessed another trend which undermined the logical side of rhetoric, namely a new situation in logic which accompanied the decline of the old paradigm for science. A look at this process should make the point of this chapter clear.

Aristotelian logic reached its climax between the 12th and the 15th century. Then it marched in the vanguard of mediaeval rationalism which looked for its place within the limits — not too vast, indeed — of theological orthodoxy. The Christian faith was declared to accord with natural reason, and the latter was exercised mainly by developing and applying logic. When theology was dominant among the branches of learning, intellectual achievements in that field mattered more than in any other one. A success in theology could have been measured only by two criteria: that of accordance with orthodox teachings and that of accordance with logic. There was no way of falsifying a theological conjecture through empirical reality, but it might have been refuted either as disagreeing

with a theological axiom or as disobeying a logical rule; the latter would have referred to the mode of its being derived from formerly accepted propositions.

However, due to the speeding up of the progress of science since the 16th century, people started to realize that the reputedly intelligent thinkers might have been fairly ignorant of the subtleties of Aristotelian logic. That observation was backed up through the critical examination of logic itself. It was hard to find in its procedures anything that could have aided Galileo's or Copernicus' discoveries, Gutenberg's involved technology (owed to a unique combination of craftsmen' skills), or Columbus' ideas. This is why the existing logic was so vehemently accused of uselessness and sterility both by Francis Bacon, who spoke on behalf of natural science, and by René Descartes, inspired by his own success in mathematics.

Thus logic itself, being an important ally of rhetoric, started to suffer losses in the postmediaeval period. Temporarily it could even have improved the chances of rhetoric as an art of live speech and writing opposed to pedantic logic unable to move human souls. Yet, when tracing the history of rhetoric, especially its theory with Aristotle and Cicero as the greatest authorities, one must agree that its roots went back to logic. A figurative style as developed in the extra-logical branch of rhetoric was appreciated as a means to more powerfully influence an audience, but the main force of arguments was looked for in the rules of logic. Thus the decrease of the authority of logic must in the long run have diminished the position of rhetoric, too.

That historical experience gives rise to the question concerning the chances of rhetoric after the revival and dramatic development of logic in our times. Is a new flourishing of rhetoric possible? We should not expect the answer in the affirmative as history is like a stream, and one can never enter the same stream twice. However, the rise of new theories and practical skills which deal with problems of efficient communication does leave much room for a new form of rhetoric. Firstly, there is the task of applying some achievements of modern logic to the art of successful communication, especially in regard to argumentation.

That limited but important task should be attributed to what I suggest we call **cognitive rhetoric**, as a discipline which is (i) supported by a theory of **natural logic** taking advantage of symbolic logic (see Chapter Six, Section 3), and (ii) being developed for theorizing about arguments to be addressed to intelligent and benevolent audiences. This essay is meant as a reconnaissance of that nascent field of inquiry. The inquiry should take over the tasks of the old retired rhetoric, to carry it on in a new way, adjusted to the new times.

The term 'cognitive rhetoric' is to play a significant role in the further discussion; the adjective contributes to explaining why rhetoric should take advantage of logic when logic is seen as fundamental for the study of cognition. However, this is not to mean that a new academic discipline is being planned. The distance between a fully formed discipline and other theoretical activities, even if these are distinguished by special names, can be measured with the help of a set of lucid distinctions devised by Posner [1988]. According to that essay, an academic discipline must include the following five components: (1) the *domain* as a set of objects, (2) the *subject matter* as a set of relevant properties (of these objects) referred to by suitable predicates, (3) the *methods* as a set of rules, (4) the *body of knowledge* as a set of asserted propositions, (5) the *presentation* as a set of means of expression (natural language, technical terminology, symbolism, diagrams, etc.). Cognitive rhetoric shares the domain with semiotics but differs from semiotics in item 2 as it involves predicates to express instructions and evaluations — in accordance with the old tradition of rhetoric as concerned with the art of an efficient activity (therefore, in Posner's terminology, its results have the status of a doctrine but not that of a theory). In the methodological aspect, it is characteristic for cognitive rhetoric, e.g., that it treats formal logic as a ladder to be mounted and then dispensed with (to use Wittgenstein's parable) in order to try a next approximation in rendering the nature of arguments. Therefore it possesses its own body of knowledge, e.g. the propositions comparing formal and material arguments. Thus, there are sufficient reasons to treat cognitive rhetoric as a special field of study, though not in so extensive and so advanced a way that it could be regarded as an academic discipline.

2. Descartes, Leibniz and Pascal facing a crisis in logic

2.1. Thus, in the 17th century began a *crisis in logic* which also undermined rhetoric. What can we learn from that story when attempting to build rhetoric again on a logical basis?

According to the view so outspokenly stated by Thomas Kuhn, any crisis in science, as in politics, has to bring about a significant turn, or even a **scientific revolution**. This view sounds convincing to anyone familiar with what happened in science in the 17th century. Kuhn's [1962] views happen to be criticized for some claims belonging more to philosophy of science than to its history. Whether scientific revolutions must appear with cyclic regularity, is an issue as debatable as the analogous question in political philosophy. But that revolutions do happen is no risky contention, and that a most dramatic revolution within science did occur in the 17th century is common knowledge.[2]

People concerned with logic were not isolated in their feeling that the old foundations proved to be wrong and that new foundations needed to be constructed. The feeling of crisis was overwhelming. It had a dramatic effect upon the Church and resulted in the emergence of Protestantism. It was also apparent in philosophy, and in views on human knowledge as well as views on physical reality. Revolutionary movement in that area resulted in the new paradigm which was self-consciously and, so to speak, enthusiastically mechanistic.

Before we attempt to ponder the impact of that new framework upon logic and rhetoric, let us explain the stress being laid upon events of the 17th century, though the process in question must have started earlier. A brilliant justification of such a historical approach is given by Butterfield [1958] in chapter ten entitled "The place of the scientific revolution in the history of western civilization" (p. 180).

> Though everything comes by antecedents and mediations—and these may always be traced farther and farther back without the mind ever

[2] E.g., in the entry 'modern' in *Webster's Third New International Dictionary* a typical use of the term in question is exemplified with Josiah Royce's saying "modern thought is a very recent affair, dating back only to the seventeenth century".

> coming to rest—still, we can speak of certain epochs of crucial transition, when the subterranean movements come above ground, and new things are palpably born, and the very face of the earth can be seen to be changing. On this view we may say that in regard not merely to the history of science but to civilization and society as a whole the transformation becomes obvious, and the changes become congested, in the latter part of the seventeenth century. We may take the line that here, for practical purposes, our modern civilization is coming out in a perceptible manner into the daylight.

To a great extent our modern civilization is due to the mechanistic paradigm of science.[3] The crisis which endangered science at the end of Middle Ages was overcome with the emergence and successful development of that paradigm. However, logic did not participate in that process. Its rules proved useless in making discoveries, and its content did not fit into the **mechanistic framework**. The latter point, though not the fault of logic itself, might have left it beyond the main current of thought. Thus two combined issues challenged philosophers: (i) how to make logic assist the creative thinking that would lead to discoveries, and (ii) how to build it into the general mechanistic outlook.

Three solutions have been suggested for this set of problems, each retaining its validity up to our times, and each being pertinent to a rhetorical approach to logic. Let they be named after the most eminent philosophers in the 17th century, namely Descartes, Leibniz and Pascal. Descartes and Leibniz initiated new approaches to logic, competing with one another. Pascal was more concerned with an analysis of the mind than with creating a logical system, nevertheless he gave logic two strong impulses, one towards the theory of definition, and one towards probabilistic reasoning (to a certain extent, they came to be treated in a systematic way, too, namely in comments found in *Port Royal Logic*). What will be most taken into account in the present discussion is Pascal's analysis of two kinds of intelligence which contributes much to mind-philosophical logic (in the sense explained in the next chapter).

[3] How this paradigm has brought about the dramatic progress in natural science can be learnt from the quoted book by Butterfield, also from the very instructive *The Evolution of Physics* [1947] by Albert Einstein and Leopold Infeld.

All of them were busy with the then fashionable trend to create a **logic of discovery** — *logica inventionis*, and all dealt with the problem of how to relate logic to the mechanistic worldview. While Descartes and Leibniz tried to elaborate a system answering these questions, Pascal focussed on describing the innate power of human intelligence without even trying to state a system of rules to guide this faculty; but it is the description of the mind given by him from which we can profit most when striving for a logical theory of intelligence.

Let us first compare Descartes and Leibniz. When faced with the above-stated questions, they came to different conclusions.

2.2. René Descartes' solution fitted into his radical **mind-body dualism** concerning the relation between mind and matter. There are — he claimed — two independent substances, each of them existing in world of its own, even if they interact in a way with each other, namely **body**, existing in space (*res extensa*), and **mind**, living, so to say, in another dimension (*res cogitans*). Faced with such a split in reality, one must have asked where logic belonged. Descartes did not bother with Aristotelian logic which he regarded as useless for solving real problems. He created, instead, his own logic which he called **rules to guide the mind** (*regulae ad directionem ingenii* — to quote the title of one of his essays); he did not use the term 'logic' as such which would have called to mind the scholastic tradition. Later, however, when his ideas started to compete with traditional ones, his followers did not avoid the term, hence the denomination **Cartesian logic**.

The phrase itself 'rules to guide the mind' hints at the Cartesian solution. Logic belongs to the realm of mind. Its rules prescribe how the mind should behave in order to tell what is true from what is false; for instance, that one should never bother about what other people have said regarding the matter in question, one should instead concentrate on what can be grasped by a clear and manifest intuition (rule iii). If one imagines logical rules as being as close as possible to an algorithm for problem solving, one has to feel disappointed with such advice. However, Descartes believed himself (not without some justification) to be addressing his rules to intelligent minds, not to machines; in the case he could expect

an understanding of his ideas, even if not fully expressed in their literal formulation.

He hoped that *the* method defined by such rules, which were extracted from his own, much successful, experiences in mathematical thinking, would help people in training and improving their minds. Thus he believed he had replaced the old and useless logic by a theory of scientific methods that would match the challenges of the new age. He also believed himself to have taught how to build a mechanistic theory of the material world with a method due to a deeper insight into the non-mechanical nature of the mind.

2.3. Leibniz's reaction to the crisis of logic is found at the opposite pole. He was a monist who did not deny reality either of mind or of matter, but saw the mental as organizing the material at its very heart. The mind is no 'ghost in the machine' (according to Ryle's [1949] famous saying) but rather an engineer's idea that is to organize the machine's functioning. In this context logical rules appear well suited to control behaviour of a **reasoning machine** as arithmetical rules control the behaviour of a computing machine.

Leibniz not only stated the programme of building a reasoning machine but also made some theoretical arrangements which we now see as necessary preparatory steps. Namely, he strenuously attempted to create a logical calculus which could be performed by a machine (*veritas machinae ope impressa*). Eventually, he succeeded in something that roughly resembled the later Boolean algebra in which he managed, inter alia, to express the four types of Aristotelian categorical propositions.[4] Now we know that the **algebraization of logic** provides us with an algorithm to mechanically check the validity of any formula of the propositional calculus, while for the rest of logic (predicate calculus) there are ingenuous methods to reduce it in a way to propositional logic.

In this way Leibniz tried to put logic into the mechanistic framework. As for the demands of the mechanistic approach, his solution

[4] Unfortunately, his discovery remained unknown up to the end of the 19th century, and was made independently by more authors from among whom George Boole has proved most successful. More on this subject is found in Chapter Three.

appears to be much more successful than that of Descartes. But what about the other part of the programme of reforming logic, that called *logica inventionis*, which intended to make logic of use in making discoveries, in looking for new truths?

Leibniz believed that a logical machine could be fit enough to perform such a demanding task. Were he right, then the *logica inventionis* project would remain in beautiful accord with the mechanistic framework. However, his point is not likely to be interpreted in a brief and lucid manner. Only to mention a possible course of interpretation, let it be recalled that Leibniz put the demarcation line between mind and matter in a peculiar, so to say, 'set-theoretical' manner.[5] Namely, true to his juvenile insights expressed in the dissertation *De arte combinatoria*, he measured the distance between live creatures and inanimate matter by degree of complexity, namely infinite in the former case, finite in the latter. Then one might say that a machine can approximate the mind's performance in a degree proportional to its being complicated, the limit of such a progression laying in infinity. The infinite complexity of life and mind would be actual while that of a machine only potential, and thus one would save both the idea of the insuperability of the mind and the idea of the increasing possibility of its being replaced by a machine (both nicely combined with Leibniz's infinitistic framework, and sounding reasonable to present users of ELSI computers, i.e., those of Extra Large-Scale Integration).

2.4. Pascal's contribution to logical and psychological foundations of rhetoric mainly consists in his famous distinction between *esprit de géometrie* and *esprit de finesse*. Their comparison from the logical point of view can be made in terms of premises and inferences, as did Pascal when comparing these mental faculties.

Here are Pascal's own words on the *esprit de finesse* as characteristic of practical men being opposed to mathematicians.[6]

[5] As to the role of set-theoretical insights in Leibniz's thought, see the inspiring paper by Friedman [1975].

[6] *The Thoughts of Blaise Pascal* transl. C. Kegan Paul, London 1895, George Bell & Sons, see section 'Various Thoughts', p. 310. The phrase itself does not appear in the quoted text; it appears earlier in a passage which is continued by the one here cited.

> The reason that mathematicians are not practical is that they do not see what is before them, and that, accustomed to the precise and distinct statements of mathematics and not reasoning till they have well examined and arranged their premises, they are lost in practical life wherein the premises do not admit of such arrangement, being scarcely seen, indeed they are felt rather than seen, and there is great difficulty in causing them to be felt by those who do not of themselves perceive them. They are so nice and so numerous, that a very delicate and very clear sense is needed to apprehend them, and to judge rightly and justly when they are apprehended, without a rule being able to demonstrate them in an orderly way as in mathematics; because the premises are not before us in the same way, and because it would be an infinite matter to undertake. We must see them at once, at one glance, and not by a process of reasoning, at least up to a certain degree.

In another passage (p. 311), Pascal uses the phrase **penetrative intellect** to name the same faculty. This description is worth quoting because of its use of the concept of premises which belongs to the terminology of logic.

> Some are able to draw conclusions well from a few premises, and this shows a penetrative intellect. Others draw conclusions well where there are many premises. For instance, the first easily understand the laws of hydrostatics, where premises are few, but the conclusions so nice, that only greatest penetration can reach them. And those persons would perhaps not necessarily be great mathematicians, because mathematics embrace a great number of premises, and perhaps a mind may be so formed that it searches with ease a few premises to the bottom, yet cannot at all comprehend those matters in which there are many premises.
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> These are two kinds of mind, the one able to penetrate vigorously and deeply into the conclusions of certain premises, and these are minds true and just. The other able to comprehend a great number of premises without confusion, and these are the minds for mathematics. The one kind has force and exactness, the other capacity. Now the one quality can exist without the other, a mind may be vigorous and narrow, or it may have great range and no strength.

After more than three centuries, these observations display new vitality — owing to our familiarity with computers, and to our knowledge, even if modest, of the functioning of the brain. Certainly it is natural for a computer to imitate mathematical minds due to the enormous memory capacities being "able to comprehend a great number of premises without confusion". It is why computers are good at deducing data from explicitly enumerated, even if

gigantic, sets of premises. As for the brain mechanism underlaying the penetrative mind, it may be considered as approaching this model. An advantage of the brain over the computer consists in an astronomical number of connections between neural cells so that innumerable data from many centres and levels can be combined and synthetized at an appropriately high level in order to yield a conclusion. The conclusion follows, so to say, from premises written nowhere, for no unit in itself records a whole premise, it may result from a combination and interplay of unimaginably numerous partial data converging towards a whole to be integrated by a central unit.

Such a connectivist model accounts for the feature which Pascal perceived as the ability to deal with enormous complexity of details; hence the name 'finesse' to suggest that minuteness, and the adjective 'penetrative' to suggest the necessity of penetrating deep layers of a vast network (to be called a conceptual network in Chapter Eight). Obviously, a great part of that process must occur at the subconscious level, so that often a penetrative mind perceives only the result without being able to account for either the premises or the ways of conceptualizing and reasoning; this lack of awareness of our own mental processes is the price to be paid for their enormous efficiency.

In spite of the denied access to that immense fabric of mental-neural activity, we shall try to find out a factor at the conscious level owing to which the penetrative esprit, being a prerequisite of rhetorical acumen, could significantly improve its performances. The penetrative mind is defined as one suitably endowed with what I suggest we call 'conceptual potential' and 'conceptual engineering' as principal constituents of intelligence. They constitute the main subject-matter of mind-philosophical logic which is to provide rhetoric with a solid cognitive foundation.[7]

[7] Such a cognitive foundation requires an adequate terminology. To find a suitable English counterpart for the Pascalian *esprit de finesse* without coining new and unavoidably artificial terms, I suggest the word 'acumen' as a short and natural translation. In its original Latin meaning it denotes a top in acute form, and later, by extension, high intelligence, acuteness, wit.