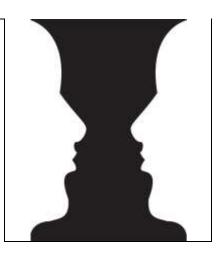
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Hermeneutics of reason: the principle of common rationality as premise of understanding the Other(s)

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Abstract

The central argument defended in this paper is made up of two interconnected statements: i) that a minimally defined rationality is an anthropological constant, being shared by all conceivable human cultures; and ii) that this "commonality of reason" constitutes the basis on which inter-cultural understanding is possible. In proving the first thesis (the universality of reason), the paper contrasts Western thought, epitomized in scientific reason, with non-Western thinking patterns, expressed by ethno-sciences, magic rituals, and other knowledge practices. The conclusion drawn from this comparison is that both modern scientific reason and non-literate peoples thought patterns are two "cognitive modes" sharing a strong structural similarity. Building on some loci classici of anthropological literature written by Malinowski, Evans-Pritchard, and Lévi-Strauss (among others), the paper argues that although modern Western science and indigenous knowledge(s) share a common rational denominator, the two cognitive modes are nonetheless hierarchical, the former being epistemically superior to the latter thanks to its unique self-correcting methodology. The paper ends by arguing the case for the possibility of understanding the Other(s) by way of reason, a possibility grounded on the commonality of reason between cultures.

Keywords

Rationality, ethno-science, inter-cultural hermeneutics, cognitive anthropology

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Introduction: inter-cultural hermeneutics between taken-for-grantedness and incomprehensibility

Until the "hermeneutic turn" that bent the trajectory of modern anthropology towards a postmodern destination, the possibility of understanding the Other remained amidst the stock of taken for granted assumptions, as part of the standard "of course answers" given if such a question was to be explicitly raised at all². The dogmatic faith of the Enlightenment philosophy in the capacity of reason to fully understand the natural and social world neutralized any dubitative impulses of questioning the belief in the accuracy of the Western understanding of the colonized Other(s). The crisis of representation in the human sciences, announced by G.E. Marcus and M.M.J. Fischer (1986), opened the breaches through which the hermeneutic question erupted and imposed itself on top of anthropology's agenda. In full tune with the emerging postmodern critique challenging the basic axioms of classical human sciences, the hermeneutic pendulum swung towards the pole of incomprehensibility. Enlightenment's unbounded confidence in the power of reason to comprehend the Other had been abandoned and replaced by the postmodern hyperbolic mistrust regarding the possibility of "inter-cultural hermeneutics" (Ariarajah, 2005; Marotta, 2009).

In addition to the hermeneutic turn, the advent of relativism – first in its cultural mode, followed shortly by its more aggressive epistemological incarnation – threw doubt on the validity of "the rationality principle" in sociology and anthropology alike. Installed by Max Weber as canonical methodological rule, the rationality principle stated that social scientists can understand and explain (*Verstehen*) social actions, social actors, and their motives of action, by way of reason. Founded upon this principle, Weberian Verstehen sociology asserts that "the behavior of a social actor is always comprehensible" (Boudon, 2005: 35). The principle of rationality, coupled with the assumption of the rationality of social agents, opened the doors for rationally comprehending the Others. But these rational doors leading to understanding were violently slammed by the cavalcade of "turns" breaking away with the Enlightenment's trust in reason.

Against the ideas overstating the cultural "incommensurability" between different symbolic universes and the futility of reason in creating hermeneutic bridges connecting these allegedly disjointed and self-contained cultural units, this paper defends the power of reason to pave the way towards understanding other cultures, however different in their cultural manifestations. This paper examines "the commonality of reason" existing between different cultures, investigating the practical rationality codified in the ethno-sciences and other magical practices developed by

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numerous non-industrial societies as being structurally similar to the type of rationality conventionally described as the hallmark of the Western world. Highlighting the universality of reason as an anthropological constant, this paper suggests that precisely this rational foundation shared by all human cultures is the premise that makes intercultural understanding possible.

One reason, two cognitive modes: reasoning in the scientific and ethno-scientific modes

It is safe to affirm that any definition of science is "notoriously open to attack" (Goode, 1959: 41). After the attempt of the Vienna Circle (logical positivist) philosophers to fix once and for all the epistemological formula of science utterly failed, the dream of establishing an undisputable definition of what science is and how it is done has gone to the winds of relativism. In the aftermath of the collapse of logical positivism's program of formalizing science (a collapse celebrated by P. Feyerabend in declaring that from now onwards "anything goes"), a plethora of definitions of science bloomed in the new context of epistemological "anarchism" (Feyerabend, [1975] 1993: 14, 9). However, despite the crumbling of the definitional consensus over "the soul of science," every definitional pretendent must acknowledge that scientific thinking is inextricably linked to reason and that science is a codification (however imperfect) of rationality. As basic ingredient of science, the notion of rationality is itself an "essentially contested concept" (Gallie, 1956). Navigating between the extremes of putting forward a formal definition of rationality (which will almost certainly be just as expose to subsequent attacks) and of intuitively following the dictum "I know it when I see it," I will make two assumptions: a) that an action can be qualified as rational if it is an efficient mean to an end, or if the acting agent can justify the action by resorting to a theory, ethic, or even to tradition (see Boudon, 2005: 40-52). (It goes without saying that I am using a "soft" or "thin" concept of rationality, not a "hard" or "broad" one similar to Pareto's logical action [see Elster, 1985: 1-33, for a discussion of thin versus broad theories of rationality]); b) that a belief or a system of beliefs is rational if it satisfies some criterion of rationality (Jarvie & Agassi, 1967: 55). A minimal criterion of rationality can be accepted as provided by what A. Kukla (1991: 486) calls "passive acceptance," which implies that "whenever we are apprised of an incoherence (i.e., an inconsistency or a lack of logical closure) in our system, we should change our system in such a way as to eliminate it." This can be contrasted to the maximal criterion of rationality, labeled by Kukla as "the criterion of logical omniscience" requiring a perfectly closed and logically coherent system. Given that the latter criterion of logical omniscience is too soliciting to be considered in the context of the lifeworld, the former criterion of passive acceptance will be used as the standard for rationality. This being said, I will argue that a thin conception of rationality is an anthropological constant characterizing all conceivable human cultural and actions systems. This will be shown by comparing Western thought codified in science with non-Western thinking patterns expressed in ethno-sciences and magical practices. The contrast between the two cognitive modes will reveal that they share a basic rationality, although the scientific mode of thinking excel in epistemic terms in comparison to the native thought patterns due to a peculiar social institution and a self-correcting critical methodology.

Science, as cultural phenomenon, social institution, and cognitive endeavor, is, arguably, historically unique to Western society. However, if it is true that science does not require a "special sense," such as J. Bronowski (1960: 11) is claiming, then the hypothesis that all known and conceivable human cultures had developed means of knowledge similar to Western science gains plausibility. In R. Merton's terms (1968: 88), it is to be expected that any human society, on the basis of their genetic commonality, to develop "functional alternatives" to modern science, epistemically wanting, but structurally similar surrogates to Western science. This issue, regarding modern science's alleged epistemic pre-eminence over ethno-sciences must be clarified at once, in order to exonerate my position from any charges of ethnocentrism. Western thought is neither inherently superior to other patterns of thinking specific to non-industrial societies, nor does it have a priori pre-eminence over non-Western cognitive styles. Both Western thinking and its non-Western counterpart use the same cognitive materials, mental resources, and inferential procedures. What is epistemically superior is only the "peculiar social institution" of modern science (Ziman, 2004: 4), emerged in Western society during the 17th century. For the first time in human history, a community of inquirers has been socially organized around the sole collective purpose of producing knowledge and understanding nature through empirical research coupled with logico-mathematical reasoning. In its quest for attaining reliable knowledge, this community of inquirers developed a self-correcting methodology (i.e. devising rules for gathering data and making logical inferences, norms of expressive clarity, protocols for ensuring replicability and internal validity, and a culture promoting mutual criticism) which was conducive to a series of highly counter-intuitive theoretical breakthroughs that provided great technological payoffs. This self-correcting methodology is the sole reason making the Western social institution of science to be "peculiar" in comparison to other institutions of knowledge. Western thought is just as exposed to cognitive biases as there are other thinking patterns. Scientific methodology, however, manages to limit the frequency of falling for these cognitive traps (overgeneralization, binary thinking, confusing correlation for causation, etc.). Using a conceptual distinction devised by E.E. Evans-Pritchard, the same idea can be put in the following terms: just because we (Westerners) explain rain by pointing out meteorological causes while they (non-Westerners) attribute rainfall to ghosts, for example, "is no evidence that our brains function differently from their brains. It does not show that we 'think more logically' than savages [sic!], at least not if this expression suggests some kind of hereditary psychic superiority" (Evans-Pritchard, [1934] 1970: 48). The difference lies not in the thought process (which is identical to both Westerners and non-Westerners as both construct structurally similar causal models of explanation), but in what Evans-Pritchard calls "the social content of thought," which is given by scientific methodology and magic respectively.

Cultural anthropology has studied how non-industrial societies (the so-called "exotic" societies, or pejoratively named "primitive" cultures) come to form their systems of knowledge. More precisely, in their studies of "indigenous knowledge,"

anthropologists focused on unraveling the logic of classification, the patterns of categorization, and the principles of taxonomization used by non-industrial societies. In short, the stakes of much of cognitive anthropology are to understand the epistemic practices of non-industrial societies, i.e. to apprehend the practices through which native communities produce knowledge. A semantic synonym for "indigenous knowledge" is the notion of "ethno-science," understood as "native science" (Cajete, 2000) articulated by autochthonous populations to solve the practical problems confronting them in their everyday life (classifying plants: ethno-botany; taxonomizing animals: ethno-zoology; vernacular medical knowledge: ethno-medicine, etc.). The foundational idea underpinning the entire anthropological research program of ethno-science is that indigenous populations possess knowledge structured similarly to that of modern science (although obviously rudimentary in comparison with the latter), practicing one form or another of a native "science" that contributes to their adaptation to their natural environment.

Ethno-sciences have much of the basic ingredients of modern science (categorization, taxonomization, internal consistency, systematicity, etc.). This is due to the fact that the majority of the mental faculties which are prerequisites for doing science are part and parcel of human nature itself. Categorization, for instance, as basic process underpinning taxonomization, is a cognitive given. The entire cognitive system is wired up in such a way as to make the process of categorization a mental necessity. Hence, categorization is a basic rule governing the functioning of the mind. Of course, how reality is being carved up by categorization is relative to individuals and cultures (Whorf, 1956), but the cognitive process itself is universally shared, being in fact an anthropological constant. Beneath the bewildering plethora of cultural diversity, there nonetheless exist some cognitive universals (categorization being one of these) that make inter-cultural understanding possible.

The anthropology of science raised the problem of the relationship between scientific rationality specific to Western modernity and thought patterns prevailing in various non-industrial communities. Against the traditional separatist school of thought seeing them as totally apart from each other, the conception that recognizes the quasi-identity of structure between the modern scientific thought and its non-Western counterpart gained increasingly currency in recent scholarship. This paper is written from within this intellectual tradition, embracing the belief that both modern scientific rationality and pre-modern patterns of thought derive from the same root of basic rationality shared by all human beings.

In the beginning of the 20th century, dominated by both the evolutionist outlook and the Western arrogance, anthropology promoted the idea of the categorical superiority of modern society's pattern of thought over traditional thinking. This conclusion was further fuelled by the superficial nature of research dedicated to understanding "savage" thought, a research program corrupted by the bankruptcy of the binary schema of civilized-primitive underpinning the early anthropological project. Representative for this stream of thought is Lucien Lévy-Bruhl (1923), whose conception dichotomized, hierarchizing at the same time, the "pre-logical" thinking specific to the

"primitive mentality" of non-literate people and the "logical thinking" characteristic to Western society. However, the increasingly frequent and deeper anthropological incursions into the center of the symbolic systems developed by exotic cultures triggered a paradigm shift, as cultural analysts continued to discover significant formal similarities between the two cognitive thought patterns.

Embryonic elements of the idea of structural similarity existing between "primitive" thinking and Western thought can be found inside the very framework of evolutionist anthropology. Following the footsteps of A. Comte (1903) [1844] and his three-stage model of the evolution of history – from the theological stage, through the metaphysical one, towards the positive phase -, J.G. Frazer, in his famous The Golden Bough, advances a triptych pattern similar to Comte's model, in which the system of beliefs successively passes through the periods of a) primitive magic, b) religion, and c) science. Within the framework of this sequentialist paradigm, Frazer argues that the magic practices and rituals of our forebears "were not willful extravagances, the ravings of insanity, but simply hypotheses, justifiable at the time when they were propounded, but which fuller experience has proved to be inadequate" (Frazer, cf. Phillips, 2007: 83). According to Frazer's interpretation, the ritual practices developed by indigenous or nonliterate populations are "proto-hypotheses," and the system of magic beliefs contains in nuce the "first blind and grasping strivings of an embryonic science" (Phillips, 2007: 83, my emphasis). Frazer's evolutionist paradigm based on a teleological three-stage linear movement from magic, through religion, towards science, turned out to be a gross simplification, as it was, inappellable, refuted in the court of 20th century anthropological scholarship. Nonetheless, the fact that Fraser claimed that there was a kernel of rationality to be found in the midst of "primitive magic" points out that the thesis of structural similarity between "primitive" and Western thought patterns had some historical antecedents. Firmly rejecting his strict teleological evolutionism as unfounded (magical thought does not necessarily "evolve" into scientific thinking, as there still exist numerous pockets of magical practices thriving within our contemporary "scientific society," astrological practices being only one eloquent example), what can be retained from Fraser's view is that even the most bizarre magical rituals to a Western eye contain a grain of rationality. Disemboweled from its evolutionist carcass, this thesis will be reclaimed and further elaborated by a series of famous anthropologists whose views on this subject will be discussed further.

Rationality in the classical land of Magic: Malinowski and Melanesian ethno-science

Bronislaw Malinowski was one of the major protagonists who overthrown the paradigm of total rupture between the "primitive" and "civilized" rationality, pleading for the homology of structure between the two. Malinowski manifests an ambivalent attitude towards L. Lévy-Bruhl: on the one hand, he appreciates him as the first to turn scholars' attention towards the primitive thinking in its "more sober moods" (Malinowski, 1948: 8). Until him, anthropologists ignored the sober component of native thought, fascinated by its more exotic aspects, expressed in magic, religion, or mythology. On the

other hand, by his corrupted conclusions (that the primitive man is incapable of making impartial observations, unbiased by his own subjectivity and wishful thinking; that he has no ability to abstract reasoning, towards which he manifests a visceral aversion; that he is incapable to form or understand ideas such as the cause-effect relation or those of identity and contradiction; that his entire thinking is pre-logical and mystical through and through), Lévy-Bruhl has established the dogma of the "primitive's man irrationality" in anthropology (Malinowski, 1948: 9).³

Blustering against the anthropological dogma enshrined by Lévy-Bruhl, Malinowski counters by elaborating the thesis that science, however rudimentary, is a cultural universal. Just as there are no known human societies without magic and religion, "nor are there, it must be added at once, any savage races lacking either in the scientific attitude or in science" (Malinowski, 1948: 1). Following the Durkheim of The Elementary Forms of the Religious Life (1976) [1912], Malinowski described human experience in society as being in every culture divided in two clearly defined and "nonoverlapping magisteria" (Gould, 1997): The Sacred and The Profane. Magic and religion have jurisdiction over the sacred domain, while science (or its crude indigenous equivalent) claims tutelage over the profane areal of social life. The binary categorization of reality in the two separate experiential zones also entails the autonomy of each of them against the interference of the other. Hence, although the system of beliefs held by the Melanesians studied by Malinowski had a significant supernatural dimension, this was being doubled by a prosaic dimension made up of mundane knowledge used in practical purposes, whose efficiency in the everyday affairs depended upon the non-interference of mystical beliefs. For instance, in the construction of canoes, the Melanesians do not resort to magical incantations or invoke supernatural blessings (i.e. sacred knowledge), but rely entirely on technical know-how (i.e. profane knowledge). Magic does not intrude within the realm of practical knowledge, as Melanesians are in possession of efficient means of constructing efficient boats in terms of speed as well as stability and safety. Moreover, the autonomy of profane technical knowledge of this type in regards to mystical notions is also proved by the fact that magical beliefs and rituals are developed as spiritual addendum to the non-mystical one only when the situation is uncertain enough as to cannot be controlled exclusively by mundane means (technical or conceptual). Malinowski buttresses his thesis that magical conceptions derive from the moments of crisis and uncertainty by invoking a concrete illustrative practice: fishermen who are fishing in the shallow waters along the coastal line do not envelop their practices in magical rituals, while fishermen venturing into the high seas of dangerous waters equip themselves, alongside the absolutely necessary practical knowledge, with additional magical devises.

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³ Another built-in flaw of early 20th century anthropology had been its gender bias. The equation or total identification of "human being" with "man" pervades the writings and thinking of early anthropologists. Fully aware of this gender bias, I chose to keep it as such in my discussion of Lévy-Bruhl and Malinowski, wishing to remain faithful to the authors' (mis)conception. Correcting their gender bias would mean to engage in an act of retrospective justice that would deform their views on social world.

The intensive study of the Melanesian system of beliefs and practices, carried out in "the classical land of magic, Melanesia" (Malinowski, 1948: 15), has led Malinowski to a double finding: a) at the individual level, primitive man is a competent knower, a keen observer of his environment, endowed with the ability of abstract reasoning; b) at the collective level, "every primitive community is in possession of a considerable store of knowledge, based on experience and fashioned by reason" (Malinowski, 1948: 9). The remaining question was if this practically efficient indigenous knowledge also has theoretical value, or, conversely, if it is only an archive of practical rules of thumbs, nothing but "crude empiry." In the same train of questioning thought, can indigenous knowledge be seen as a rudimentary stage of science, sharing with modern science a common methodological infrastructure? Malinowski's answer is a categorical yes. "Primitive" knowledge contains the rudiments of modern science, while practical reason underpinning indigenous thought and Western reason share a common denominator.

The attempt to fix science in an uncontroversial definition is of notorious difficulty. Many professional epistemologists have surrendered to this definitional touchstone. Malinowski, although not a professional epistemologist, does not share their fate. Depending on how demanding is science defined, indigenous knowledge comes closer or moves farther away from the requirements of modern science. Malinowski's bold argument is that the distance between the two is not going to be too wide, irrespective of how much one raises the bar. According to a "minimum definition"⁴ (Malinowski, 1948: 17), scientific knowledge can be understood as satisfying the following set of requirements:

- a) the exigency of systematicity, which implies the existence of an internally integrated and unitary body of rules and conceptions;
- b) the exigency of the logical-empirical foundation: the body of rules and conceptions must be supported by experience and derived from it by way of logical inference;
- c) the exigency of artifactuality, which demands that the system of knowledge to can be incorporated in material achievements, i.e. to produce artifacts;
- d) the exigency of rigidity: the set of rules and conceptions must be fixed into a form of tradition in order to ensure its temporal durability and perpetuation;
- e) the exigency of social organization, which requires that the cognitive activity to have a collective nature, so that the process of knowledge production to be carried out within the frameworks of a social organization.

Defining science by these five features, Malinowski's (1948: 17) next move is to force the conclusion that "there is no doubt that even the lowest savage communities have the beginnings of science, however rudimentary." Against Malinowski's expressed certainty that any social collectivity must possess a kind of rudimentary science, it would be safer to keep a precautious doubt, since Malinowski seems to fall in the same

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⁴ Malinowski (1948: 17) defines science as "a body of rules and conceptions, based on experience and derived from it by logical inference, embodied in material achievements and in a fixed form of tradition and carried on by some sort of social organization."

teleological-evolutionistic trap that Fraser had fell into before him. Instead of speaking of "the beginning of science," the same idea could have been better expressed in terms of "basic socio-cognitive prerequisites" shared by both Western society and pre-industrial communities. But besides these problematic issues (which can be surpassed by converting them in a non-teleological language), Malinowski's statement is putting forward a strong case for the thesis of structural similarity defended in this paper. But Malinowski is not entirely satisfied with this conclusion by which he has already rehabilitated the cognitive status of indigenous knowledge. Progressively, Malinowski raises the stakes substantially, by adding additional epistemological requirements to this minimum definition of science. Thus, anticipating the possible objection against such a loose definition of science, Malinowski overbids by inserting an extra clause:

a) the cognitive exigency, which demands that scientific knowledge must decisively surpass the pragmatic level of technical thinking and contain general theoretical principles. In Malinowski's words (1948: 17), the corpus of methods and conceptions "must not only be rules of practical behavior, but theoretical laws of knowledge."

Even with this additional requirement in place, Malinowski argues that primitive knowledge satisfies all the exigencies of science, since the former contains numerous abstract principles (e.g. general laws of hydrodynamics and equilibrium that the Melanesians must be aware of in building their canoes). This is where Malinowski's argument falls short. Malinowski is at pains to prove that Melanesians master theoretical principles, i.e. that they fully understand the forces of nature, although they lack the vocabulary that would permit them to make these principles explicit as in Western science. Ultimately, despite Malinowski's argumentative struggle, his case for the abstract theoretical nature of Melanesian knowledge is unconvincing. Technical efficiency and pragmatic mastery of some realms of the natural world does not necessarily imply abstract theoretical understanding. But Malinowski does not stop here. Raising the stakes once again, Malinowski inserts what he names to be "the really scientific attitude" (1948: 18), consisting in:

b) the exigency of disinterestedness: knowledge for knowledge's sake, whose motivation is of intrinsic nature and not of pragmatic or instrumental reasons.

This last criterion could seem to be finally too demanding for indigenous knowledge. Malinowski acknowledges that no "primitive" culture is characterized by a genuine thirst of disinterested knowledge, but by making this concession he is not yet ready to abandon his position. Despite this deficit, Malinowski points out three types of individuals who come close to satisfying the exigency of disinterested knowledge, painting their intellectual portraits with a few broad strokes: i) the antiquarian mind, to be found in the fascinated collector of myths, customs, genealogies, and historical legends; ii) the naturalist, in the person of the keen observer and intimate knower of nature: iii) the "sociologist," that subtle and cultivated expert in the human affairs of his fellows, who understands the functioning mechanisms of social order and human institutions. About the latter, who possess a "second order common sense" (Chelcea, 2001: 22), Malinowski (1948: 18) says that he is the "ideal informant" for the

anthropologist who struggles to familiarize himself or herself with the sociocultural system s/he wishes to understand. Malinowski's conclusion is that primitive science, however "crude, rudimentary, and inchoate," is nonetheless "the matrix from which higher developments must have sprung" (Malinowski, 1948: 18).

Shrouded in magic: rationality in the Azande mode

The Melanesians studied by Malinowski kept apart the sphere of the supernatural from the sphere of the mundane, preventing thus from mixing together the magic and the prosaic. Malinowski is at pains to compel us to accept his argument that in the profane businesses of everyday life, the indigenous people base their actions upon a system of knowledge that approximates (although with large shortcomings and deficiencies) the knowledge system of modern science. In contrast, the Azande people studied by E.E. Evans-Pritchard (1976) [1937] seem to amalgamate the two spheres, closely intertwining them in their conception of the omnipresence of witchcraft in their everyday lives. The belief that witchcraft has a ubiquitous nature in their daily affairs holds a central position within the Azande belief-system. For instance, diseases affecting people are attributed to witchcrafts done by persons of the same sex with the diseased. Azande people firmly believe that witchcraft has a concrete reality, the power of witchcraft being thought to derive from a biological basis. The "substance of witchcraft" resides in the organism of the person possessing these magical powers, more precisely, being localized "just beneath the xiphoid cartilage," as Evans-Pritchard (1976: 2) concluded after inquiring the locals. "It is attached to the edge of the liver. When people cut open the belly they have only to pierce it and witchcraft-substance bursts through with a pop," said one of the natives (ibidem). The Azande belief-system is supported, beside this somatic principle, by a second central axis in the hereditary principle, according to which witchcraft is inherited along sexual lines (mothers pass on the witchcraft-substance to their daughters, while fathers pass it on to their sons). Cross inheritance (from father to daughter or from mother to son) is inconceivable to the Azande mind. In detecting the author of the witchcraft, the sick person consults the benge, a ritual practice translated by Evans-Pritchard as "poison oracle." The Zande individual afflicted by witchcraft administers a standard dose of poison to a fowl. If the fowl dies after the name of the suspect has been pronounced, it is thought that the named person is indeed the author of the witchcraft. If the fowl survives the poison, the named suspect is exonerated.

What relevance could have these beliefs of the Azande people regarding witchcraft for the argument defended in this paper, namely that "primitive" thought is structurally similar to Western thinking epitomized by "the scientific outlook" (Russell, 1954)? At first sight, the mere mentioning of the belief in witchcraft, the corporality of the witchcraft, and the hereditary rules of transmitting it seems to be enough to demolish the argument defended here. The situation takes a dramatic turn if we analyze the corpus of beliefs held by Azande people from an *emic* perspective (i.e. by taking an inside view from within the belief-system) (Iluţ, 1997: 38). The change occurs because, despite the profound supernatural character of the Azande beliefs, the system itself

presents two surprising features: a) it contains a quasi-experimental element, being equipped with means of empirical verification of the predictions made by the poison oracle, and b) it is internally logical welded, espousing a flawless, perfectly closed, and tautological consistency.

Embedded in Azande thought system is a quasi-experimental element, to which natives resort in order to check and validate the oracle's prediction. What must be emphasized is that the natives do not give absolute authority to the predictions made by the poison oracle. Their belief-system, whose structure of resistance is made of the somatic principle (the witchcraft-substance is bodily located) and the inheritance principle (the witchcraft-substance is genetically passed on along sexual lines), allows for the empirical testing of the predictions derived from the oracle's results. Due to this fact, Azande people resort to two verification strategies: a) empirical research conducted by carrying out autopsies on the corpse of the named suspect confirmed by the poison oracle after natural death has occurred; b) logical inferences based on kinship relationships, by which they conclude if a person is a witch depending on the witchstatus of his or her parent. However, the most interesting verification procedure is postmortem examination. Evans-Pritchard (1976: 16) describes the activities carried out in the following terms:

An autopsy is performed in public at the edge of the grave. Those who attend are relatives of the dead, his relatives-in-law, his friends, his blood-brothers, and old men of standing in the neighbourhood who commonly attend funerals and sit watching the grave-diggers at their labour and other preparations for burial. Many of these old men have been present on similar occasions in the past, and it is they who will decide upon the presence or absence of witchcraft-substance. They can tell its presence by the way the intestines come out of the belly.

It follows from Evans-Pritchard's description that the procedure for determining the diagnosis is public. The public nature of the process of witchcraft determination shares significant elements with the publicity of modern science (Merton, 1973). Moreover, the persons establishing the final diagnosis are individuals who hold expertise acquired through experience. Having another correspondent in modern science, the decision makers are those who possess fact-finding competence. In this way, the oracle's predictions are continuously verified, as they are never taken for granted as apodictic sentences issued by a supreme authority.

The quasi-experimental component embedded in the Azande method is also revealed by the manner in which natives prepare the ground for the oracle ritual to take place. After they collect the poison from the forest, the natives test its efficiency as preliminary measure of validating the "oracular methodology." Before officially beginning the *benge* ritual, the locals administer poison to a fowl to test its killing effects. If the fowl survives, they continue to administer the poison to a second, or a third fowl, until eventually one of them dies. This empirical result (i.e. the death of the fowl) proves that the poison works. If no fowl dies, the Azande people draw the conclusion that the poison is corrupt, causing the oracle not to function correctly. If the poison has no effect,

or if the poison is too strong, killing non-discriminatively all fowl, "the oracle would then be a farce" (Evans-Pritchard, 1976: 158), and the Azande people are fully aware of this. All these methodological precautions taken to ensure the "internal validity" of the oracle's predictions indicate that "Azande [people] act experimentally within the framework of their mystical notions" (ibidem).

The same quasi-scientific procedures similar to modern science's methodology are revealed by the ethno-medicine developed by the Azande people. The medicines are used by the method of "trial and error" (Evans-Pritchard, 1976: 196), which implies that if a drug has no notable effect on the condition of the sick person, it is changed with another drug, in an attempt to alleviate the pain by replacing the medical cure. Evans-Pritchard noted that the medical thinking of the Azande does more than to just operate by trial and error: diseases are not just diagnosed, but also prognosed. The diseases' evolution is being forecasted, the causes for each type of disease are being determined, and specific treatment schedules are given to each disease. In administering treatment, this is most often selected based on prior experience, although special cases can be managed by applying an experimental logic. If we accept K. Popper's epistemological vision, according to which the method of science is "the method of trial and error," that of "conjectures and refutations" (Popper, 1979), then it becomes clear that between the operational logic of the Azande and the scientists' method of doing research there is a strong structural analogy.

The second surprising feature characterizing Azande thought system (apart from the "quasi-experimental element" already pointed out) is its tight internal coherence. In this regard, Evans-Pritchard (1976: 16) insists that "the Zande mind is logical and inquiring within the framework of its culture and insists on the coherence of its own idiom." The Azande system's internal coherence is revealed by the situations when the oracle fails, i.e. when the oracle makes contradictory predictions. For an oracular verdict to be considered valid, the poison must kill one fowl (after the suspect's name has been pronounced) and spare another (after the name of another suspect has been put forward). It is a defect inherent to the oracular method that sometimes both of the fowls die, thus making the oracle to contradict itself. But Azande thought managed to rationalize this outcome and to escape from drawing the conclusion establishing the oracle's self-contradiction by resorting to what Evans-Pritchard (1976: 155) has called "secondary elaborations of belief" through which the oracle is exonerated from the possibility of self-contradiction. Azande developed a whole series of this kind of "post hoc justifications" by which contradictions observed at the level of factual experience are being (dis)solved at the superior level of theoretical interpretation. For example, Azande people can invoke the breaching of a taboo, the wrong variety or the old age of the poison, or even the anger of the ghosts as justifying devices explaining the oracle's contradictory outcomes. Adding secondary rationalizing beliefs that justify factual contradictions gives to Azande thought systemic coherence. If we accept the criterion of internal consistency as a minimal requirement of rationality, then Azande belief system can be credited as espousing a holistic rationality.

However, it must be neither forgotten nor understated the crucial differences between the two cognitive modes. Although modern science shares structural similitudes with ethno-sciences practiced by non-literate peoples, the former does not identify with the latter, nor is it dissolvable into or reducible to indigenous knowledge. Evans-Pritchard is fully aware of both science's epistemological superiority and Azande belief-system's intrinsic deficiencies. After he takes note of the intellectual coherence of the Azande thought, Evans-Pritchard (1976: 150) unveils its other facet: Azande notions "are so ordered that they never too crudely contradict sensory experience but, instead, experience seems to justify them." This indicates that the Azande belief-system equipped itself with anti-falsificationist strategies, in the sense that it has built-in defense devices protecting the system against the risks of empirical refutation. This is the clearest symptom of pseudo-science diagnosed by K. Popper (1992) [1934], representing the cardinal sin of any doctrine of thought claiming scientific status. Of course, no one is saying that the Azande belief-system claims such epistemological aspirations, but nonetheless, it is worth noting that the system has armored itself with immunizing mechanisms against the possibility of empirical falsification. Azande people "observe the action of the poison oracle as we observe it, but their observations are always subordinated to their beliefs and are incorporated into their beliefs and made to explain them and justify them" (Evans-Pritchard, 1976: 150). In other words, the natives collect the same observational data as any other external observer, but the theoretical frame in terms of which these data are being interpreted gives them meanings that reinforce the very theoretical framework. Azande theoretical expectations not only subordinate experience, but even somewhat perversely transform it into empirical buttresses to further support the theoretical framework. In its turn, science is not free of similar characterizations. In the philosophy of science, the code name for this is "the theoryladenness of observation" (Brewer and Lambert, 2001), according to which empirical data are inescapably influenced by the theoretical framework in terms of which they are collected and made sense of. Although undeniably valid, the argument of "the theoryladenness of observation" comes in various degrees and strengths. Science's superiority in comparison to Azande thought-system resides in that the former is much less affected by theory-ladenness that the latter, whose conclusions are completely colored by the theoretical premises. As W.F. Brewer and B.L. Lambert (2001: S176) conclude, "the evidence for theory-ladenness does not lead to a relativist account of scientific knowledge."

Azande belief-system is thus wrapped around multiple safety belts protecting the system against direct empirical refutation. A similar point, concerning scientific "research programs," has been made by the philosopher of science I. Lakatos (1978). In his view, every scientific theory is made up of two elements: a hard core, containing the central assumptions of the theory, and auxiliary hypotheses protectively enveloping the hard core. The central assumptions of the theory cannot be directly tested against reality, since only the auxiliary elements are confronted against experience. But again, as in the case of the theory-ladenness of both scientific and Azande belief-systems, similarity does not mean putting the equal sign between science and magic beliefs. As the history of

science so eloquently demonstrates, tenacious theories can be eventually discarded by reason and observation (e.g. Ptolemy's geocentric view of the universe, Aristotle's theory of spontaneous generation, or Joseph Priestley's phlogiston theory), while magic beliefs (such as the Azande poison oracle) are much harder to shake. They die not by rational-empirical refutation as scientific theories do in the long term, but with the disappearance of the culture embodying them, or swept away by other extrinsic developments, such as cultural calamities or accelerated sociocultural change.

Evans-Pritchard (1976: 159) is led to conclude that the Azande blindness towards the oracles, preventing them from seeing that the oracles do not tell them nothing reliable, "is not due to stupidity: they reason excellently in the idiom of their beliefs, but they cannot reason outside, or against, their beliefs because they have no other idiom in which to express their thoughts." In contrast to the natives, the British anthropologist is being in the position to detect that the Azande faith in the institution of the poison oracle is "without foundations" (*ibidem*), due to the fact that he disposes of the superior language of science in which he can translate and evaluate the validity of the truth-claims made by the oracular predictions. Science, although itself another "idiom," can be regarded in fact as a meta-language within whose framework all the other languages generating truth-claims (including indigenous knowledge) can be evaluated. Of course, a series of questions pop up immediately: how can the "meta-language status" of science be justified? What makes the language of science the yardstick for all the other idioms producing truth-claims?

This sort of highly provocative epistemological questions had been critically raised by P. Winch (1964) in his attack of what he accused to be an ethnocentric bias from the part of Evans-Pritchard. These allegations were formulated against Evans-Pritchard's conclusion that "we" (i.e. Westerners possessing scientific knowledge) know better than "them" (the Azande) that witches do not actually exist. Winch's critique sparked what later developed into the "debate over rationality" in human sciences and philosophy. Following closely the philosophical trail of his master – the late L. Wittgenstein (1953) of Philosophical Investigations -, Winch argued that Western science and Azande magic must be understood as "language games," played in two particular "forms of life." Since each of them have its own grammar of rules, epistemic norms, and criteria of adjudicating truth-claims, Western science and Azande magic are thus different but unrankable systems of belief and practice. Judging the sentences of one language game in terms of the other is a mistake, argued Winch, and in Evan-Prichard's case it revealed an ethnocentric attitude. Or, with a Kuhnian twist, the same idea can be cast in the following expressive mold: Azande system of thought and Western science are two incommensurable paradigms. Irrespective of the terminology used to describe the situation, Winch (1964: 313) presses the same intellectual charges against Evans-Pritchard, accusing him of wrongfully concluding that "our concept of reality is correct, the Azande are mistaken." But is Winch right to say that Azande culture is a "form of life" alien to the Western one, which can be understood only in its own terms and internal categories? Can Evans-Pritchard be legitimately accused of making a "category mistake" by evaluating Azande truth-claims in the framework of science? Regarding the first issue, the basic rationality of Azande belief system suggests that Azande culture is not so different from our Western society, and thus it is far from being incomprehensible in Western terms. Precisely the commonality of reason shared by both cultures (Azande and Western societies) suggests that they are not the incommensurable self-contained cultural units that Winch is portraying them to be. Secondly, does Evans-Pritchard make an abusive judgment by evaluating Azande beliefs in his scientific framework? I believe he is not. As a British anthropologist socialized in Western scientific tradition, he can understand an alien culture only by translating it into his familiar framework of categories. Once translated, he cannot but evaluate its truth-claims against the criteria of truth inherent to his frame of reference, i.e. the scientific one. Now, how can this be justified? It seems to me that science, understood as a cognitive instrument progressively perfected by detecting and eliminating its own cognitive biases, provides the best frame of reference for evaluating the validity of truth-claims. What make science the most reliable framework or language for judging truth-claims are precisely its specific characteristics: it is anti-authoritarian and critically orientated, features that make it highly aversive to dogma; it is also reflexive regarding its own assumptions, submitting from time to time its whole network of presuppositions to severe "epistemic revisions"; it has a continuous self-corrective drive; moreover, it is culturally inclusive and nondiscriminatory on any other criteria except for the quality of logical argumentation and empirical adequacy, etc. As I already mentioned earlier, science's epistemic secret lies in its self-correcting methodology, which gives it a decisive edge over all other systems of producing knowledge and truth-claims. Besides this methodological argument, a pragmatic reason can be added: science's epistemic distinction is clearly expressed by its record of past achievements, successful predictions, and parsimonious explanations provided, unmatched by any other rival system. Rooted in common sense, science progressively refined its methodological apparatus, protocols of establishing validity, and inference procedures, becoming in the course of time the best cognitive tool devise by humanity. Without entering into epistemological subtleties, suffice is to highlight science's impressive track of technological accomplishments (which are direct consequences of theoretical innovations) in order to certify its epistemic advantage. All these, I believe, make science the most efficient tool devised yet for judging truth-claims, therefore epistemically legitimizing Evans-Pritchard to conclude the illusive nature of some of Azande beliefs.

Cerebral savagery: Lévi-Strauss and the universal basic grammar of mental language

Claude Lévi-Strauss (2004) [1962] completed the panoply of argumentative weapons aiming at the notion of rupture between the indigenous mind and Western rational thought. In his famous work titled *The Savage Mind*, Lévi-Strauss rejects the thesis entrenched in anthropological academic culture stating the non-literate people's incapacity for abstract reasoning. That same pre-conception attacked by Lévi-Strauss promoted the idea that the conceptual systems developed by "savages" (i.e. the set of categories by which they carve out reality in order to make sense of it, and the taxonomy

tables created to classify the world into genus, species, subspecies, and so forth) have no other function except a purely pragmatic-instrumental one. Lévi-Strauss (2004: 9) is struggling to dismantle this idea, arguing that, beyond responding to mere practical purposes, building such conceptual systems is first and foremost determined by "intellectual requirements." Only an extra-pragmatic motivation, intellectual in nature, could explain why the American natives from the North East of USA and from Canada developed a "positive herpetology" (Lévi-Strauss, 2004: 8), classifying in a rigorous and systematic manner numerous species of reptiles despite the fact that these animals are practically irrelevant for satisfying the needs of their communities. The conceptual systems forged by "the savage mind" fulfill rather the function of cognitive ordering the universe by taxonomizing it in terms of some organizing principles that ensure the internal consistency of the system. Contra Lévy-Bruhl and his stadial conception (prelogical thinking as a prior stage of logical thought), Lévi-Strauss (2004: 13) concludes that mythical thinking is just as logically integrated as the system of science, both of them being "two parallel modes of acquiring knowledge," although "their theoretical and practical results differ in value, for it is true that science is more successful than magic." Formally, "primary" thinking (as Lévi-Strauss prefers to name it instead of "primitive" thinking) operates in a mode similar to the scientific one, since it implies the same sequence of methodical observing reality, formulating bold conjectures, followed by rigorous testing them against the "tribunal of sense experience" (Quine, 1951: 38). The three-fold scheme consisting of observing-hypothesizing-testing explicitly assumed and deliberately engaged in producing scientific knowledge is also present in guiding the process of indigenous knowledge, even though its presence is rather implicit. The fact that the Neolithic man possessed technologies such as agriculture, domesticating animals, pottery, and metallurgy cannot be explained by appealing to the contingent and the fortuitous. Accidental, random, or passive discovery is highly implausible. According to Lévi-Strauss' argument, the technological conquests of the Neolithic man could only be made if he possessed a "genuinely scientific attitude, sustained and watchful interest and a desire for knowledge for its own sake" (Lévi-Strauss, 2004: 14). Lévi-Strauss depicts the indigenous thinker as "the cerebral savage," who shares the same "universal grammar of the intellect" (Geertz, 1973: 345, 351).

If we give credit to the conclusion drawn by W.V.O. Quine and J.S. Ullian (1978) that systematicity and internal consistency are the hallmark of scientificity, keeping knitted together science's "web of belief," it follows that mythical thinking fully satisfies the two desiderata. Lévi-Strauss' comparative analysis of the structures of mythical systems revealed the logical consistency of the classifying sets of rules used by non-literate peoples.

Arguing for the infrastructural unity between the two modes of thought (modern scientific science and native knowledge), Lévi-Strauss does not equate them. Far from finding isomorphy or identity, the French anthropologist discovers two variations deriving from a common root. Using his famous technique of binary opposition ("the raw-and-the-cooked method") developed for the structural analysis of mythical systems, the two cognitive modes can be presented in a head-to-head comparison:

Table 1. Savage mind and scientific thought

	"Savage mind"	Modern scientific thought
Degree of abstractization	Science of the concrete	Science of the abstract
Mode of approaching reality	Perceptual	Conceptual
Procedural manner	Combinatory logic	Analytical methodology
Human archetype	Bricoleur	Engineer

Source: cf. Lévi-Strauss (2004: 1-33)

Savage mind is compatible with "the science of the concrete," having a much lower degree of abstractization in comparison to its scientific counterpart. This difference draws a line between indigenous thinking and scientific thought because the former approaches nature in terms of its sensible or secondary qualities (color, taste, smell, sound), while the latter conceptualizes nature in terms of its primary or nonsensible qualities (solidity, extension, motion, number and figure).⁵ The non-literate knower operates in similar fashion to a *bricoleur* who improvises solutions to practical problems by recycling, recombining, and permuting already existing elements. "Mythical thought is therefore a kind of intellectual 'bricolage'." (Lévi-Strauss, 2004: 17). In contrast, the engineer is representative for the type of knower possessing a scientific mode of thinking. Unlike the *bricoleur* artisan, constrained by the limitation of his/her available tools to ingeniously improvise, the engineer has at his/her disposal both the liberty and the ability to invent, develop, or procure instruments fully optimized to match his/her needs and ends.

Despite its epistemic deficit in comparison to scientific thought pattern (the latter, due to scientific methodology, being more careful to avoid the cognitive pitfalls lying ahead human thinking in general), "savage mind" is ultimately similar to scientific thinking, implying "comparable intellectual application and methods of observation" (Lévi-Strauss, 2004: 3). Without overstating, and thus risking jeopardizing the credibility of his argument, Lévi-Strauss acknowledges that mythical thinking is inferior to modern scientific thought; however, beside the specificities particularizing each of them, he also forcefully argued for their structural similarity, pointing out the common cognitive foundation shared by both scientific and mythical thought.

Lévi-Strauss does not formulate an idiosyncratic opinion by stating that the same cognitive structures underpin both Western secular logic and non-scientific mythical thought. R. Horton (1967), investigating the relationship between the theoretical thinking prevailing in Western scientific culture and African thought, detected a basic communality as well as specific particularities. On the one side, the structural similarity between them consists in the pursuit of logical consistency, doubled by struggles to avoid internal contradictions. On the other hand, Horton points out the deficiencies and

⁵ The distinction between primary and secondary qualities has received its most thorough treatment in John Locke (1996: 49) [1689] in his philosophical locus classicus An Essay Concerning Human Understanding, see Book II "Of Ideas," Chapter VIII, Sections 9-10 treating "Primary and secondary qualities."

limitations of African thought which establish its epistemic deficiency in comparison to its Western counterpart. In a synthetic formulation, African thought is undermined by the fact that it is "not reflective or critical, is closed rather than open, it is unable to entertain alternative conceptions to its dogma, it is ignorant of the experimental method and the concept of chance and it resorts to secondary rationalizations to protect its premises rather than face courageously the possibility of falsification" (Tambiah, 1990: 91). But even rendered in this way as a defective mode of thinking, African thought strangely resembles the modus operandi of "normal science" as described by T. Kuhn (1970).

Reasonable conclusions: the hermeneutics of reason

The discussion started in this paper can be brought to a close by concluding that the cognitive struggles of making sense of reality constitute a human universal, or an anthropological constant (Brown, 1991). Although modern science is a unique phenomenon to Western civilization, having a specific cultural genesis whose evolution has been strongly conditioned by the matrix of sociocultural forces particular to a certain historical epoch, its elements are nonetheless universal. It is true that scientific method has been progressively systematized and gradually refined over a long historical period, and emerged only in the European culture, but this does not make it a provincial product. It is provincial only in its genesis, universal in its possibilities. Any social system possesses the cognitive germs which make it a "science-capable society" (Gellner, 1984: 573). We know beyond reasonable doubt, thanks to extensive anthropological work, that any human collectivity is, paraphrasing Ernest Gellner, an "ethno-science-possessing society," a characteristic illustrating the general human proclivity towards knowledge. Modern science and indigenous ethno-sciences are two stems growing out of the same cognitive root, which is the systematic propensity towards knowledge engraved in human nature. The contemporary modern scientist is but a variation (however, the most successful yet) of homo (ethno-)scientificus universalis.

This "commonality of reason" between cultures shows that inter-cultural understanding is still possible, against the extreme relativistic allegations that cultural gaps are so wide that they cannot be crossed by rational bridges. The thesis of the psychic unity of mankind, which is fully compatible with the empirical fact of cultural diversity, ensures the existence of certain "cognitive bridgeheads" between cultures that can be connected through reason. Embodied in knowledge-practices done in the "classical land Magic," shrouded in oracular practices, or expressed by the *bricolage* of the "savage mind," a minimally defined rationality can be discovered as underpinning all of these peculiar activities. As shown by the extensive survey of some classical anthropological works, basic ingredients of reason exist in all the systems of thought and practices discussed in the previous pages. Malinowski's Melanesians developed a "rudimentary science" structurally similar to Western science. Both cognitive modes codified reason into highly efficient tools of mastering nature. Evans-Pritchard's Azande developed highly sophisticated systems for making sense of the world, espousing important rational features (internal consistency and a quasi-experimental element). Not

least, Lévi-Strauss' Amerindians developed a practically useless "positive herpetology" by using the tool of logical taxonomy. Some form of rationality seems to be "cognitive universals" that can be found in all human societies. Inter-cultural hermeneutics can thus capitalize on this shared rationality and, through rational comprehension, overcome the many cultural obstacles preventing the understanding of the Other(s).

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