

identity of name implies an identity of nature. Having the same name is not merely an external sign of having the same nature, but logically assumes it'. That this most naturally refers to personality attributes, rather than biochemical nature, does not alter the strictly logical aspect of the identity itself. Durkheim cites an anecdote from Spencer, who was discussing the topic of totem-hood with a member of a Kangaroo clan. '[He] responded by showing us a photograph we had just taken of him: 'Look, this is exactly the same thing I am. Well! It's the same with the kangaroo'<sup>25</sup>. Given that this duality of man – both man and animal – already establishes a 'shocking logic', in Durkheim's words, it is questionable that any further qualifications to the force of this totemic identity can ever provide more than metaphorical dressing. And after all, there is a limit to what else we can actually conceive that totem-membership might be supposed to mean. We thus have an obverse to Wittgenstein's 'In speaking of that which is impossible it seems as though we were conceiving the inconceivable' (see above, footnote 11). Presumably, Wittgenstein never banked on the possibility that the effort to conceive the inconceivable might concern what we were mysteriously trying to rule in, rather than vigorously attempting to rule out. Wittgenstein was of course writing for a British rather than a French market, dull common-sense over a penchant for paradox and rhetorical fireworks.

Yet it is this very note of inconceivability which excites both Levy-Bruhl and Dumitriu. Levy-Bruhl teases us thus: 'In the collective representations of primitive mentality, the objects, beings, phenomena can be, in a way we cannot understand, themselves and something different at the same time'. Dumitriu traces the notion of participation back to its roots in Plato's philosophy, where he suggests, ironically enough, it was no more comprehensible. He cites the Parmenides dialogue. When asked: "What is participation?", Socrates answers "By Jove, I don't find it easy to define it in any way"<sup>26</sup> Dumitriu laconically notes, with respect to Levy-Bruhl's law, that 'by saying that this law works "in a way we cannot understand" we cannot claim to have a clear idea of its meaning.'<sup>27</sup> Obviously, we can either take this observation in a mystical or a derisory sense.

### the idea of a sociology of logic

Levy-Bruhl's ideas have faced scepticism, essentially because the concept of pre-logical thinking can be so easily discarded as anti-logical. Levy-Bruhl himself sought to distance himself from the concept of pre-logism, with which he is associated, because it poses too stark a duality between "our" logic and primitive logic. Levy-Bruhl's name has also become intregally connected with the whole notion of a 'sociology of logic', which for some, such as Mason, sounds instinctively paradoxical<sup>28</sup>. Perhaps it should be regarded as

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<sup>25</sup> Durkheim, P.104

<sup>26</sup> In fact, the shadowy nature of participation is undoubtedly rooted in Plato's whole problematic ontology. As Aristotle explains so well in the *Metaphysics*, it is inconsistent to claim that a Form should be eternal and immutable, while the corresponding sensible object should be perishable. Yet it is just as absurd that a Form should itself too be perishable. Aristotle also presented the famous paradox of the Third Man. Because a sensible man is non-identical with the Form of Man, there must be a further, higher Form encapsulating what both have in common, and so on *ad infinitum*.

<sup>27</sup> Dumitriu, P.6

<sup>28</sup> Mason, *Before Logic*, P.4



axiomatic that in considering a 'sociology of logic', we should have to privilege its empirical anthropological data, so that we may not reject it a priori. For instance, Levy-Bruhl stresses that primitive man's thinking only partially rests on "pre-logic" elements and generally functions like civilised man's; in some faculties it should be thought to surpass it. It should not be deemed 'anti-logical'.

However, the best hope of for a sociology of logic must be to integrally combine itself with a metalogical critique of formal logic itself. For instance, Brouwer has combined his meta-logical critique of the Law of the Excluded Middle with a rudimentary investigation into the historical origins of this widespread belief. Possible conditions are suggested to include an attachment to monotheism.<sup>29</sup> Brouwer writes that "*The long belief in the universal validity of the principle of the excluded third in mathematics is considered by intuitionism as a phenomenon of the history of civilisation of the same kind as the old-time belief in the rationality of  $\pi$  or in the rotation of the firmament on an axis passing through the earth*".<sup>30</sup>

A particularly neat sociological-analytical synthesis concerns the choice to be had between property-based and mereological (ingredient based) metaphysics. Mason regards property-based metaphysics as fundamentally unsustainable, yet recognises that property-based descriptions have always been an integral part of our language, perhaps as a result of having been popularised by Aristotle. Woodger also makes a fascinating case as follows: "*The whole notion of 'having properties' seems to me to be suspect. It may be that the whole notion of a thing having properties is a vestige of an animistic extension of the notion of a person having property (in the sense of chattels) to things other than persons*".<sup>31</sup> Indeed, Aristotle's Categories, purporting to catalogue all the fundamental ways we talk about things, mingles both broadly internal and external characteristics. Aristotle notes the variety of senses of 'to have', such as a man having a height of three cubits, or, equally, a man being said to 'have' a coat or tunic.<sup>32</sup>

<sup>29</sup> It is easy to see why this might be so. In the Old Testament, for instance, Yahweh declares to Moses 'there is no God but I'. Conversely, this poses the Israelites with the problem of determining whether neighbouring tribes are worshipping the single 'existent' God (Yahweh), or a 'non-existent' god, such as Baal or Asherah (this dichotomy would feed into a notion of the Law of the Excluded Middle). Yahweh has also declared that worship of such false idols must be punishable with death. By a rationalist logic and subjectivist standpoint, of course, this is all very strange, for to believe in a monotheistic God is merely to believe in God. There is no means to individuate different deities, which is after all a contradiction by the very terms of monotheism. And belief in God necessarily presumes belief in an 'existent' God. We also do not readily presume access to the possibility of a Yahweh's God's eye view of the matter. It may actually be that whereas once upon a time the Law of the Excluded Middle fed the problematic of determining whether one believed in the 'true' God, nowadays it manifests itself in forcing a disjunction upon us to declare as either atheist or believer, on the rational that either God exists, or 'He' doesn't, as if there were a simple 'objective' fact of the matter.

<sup>30</sup> Quoted in Mason, *ibid.* P4

<sup>31</sup> Mason, P.78

<sup>32</sup> Aristotle, The Categories, §15 (from University of Sussex internet resources)

It is also interesting to note differences between languages. French employs the verb 'to have' an age, while in English we use the expression 'to be' an age. Even though both 'to be' and 'to have' imply properties, it is just as true that the verb 'to have' is more obviously suited to the notion of 'having a property' and uniquely evokes the specific sense of (material) ownership.



Our consideration of Levy-Bruhl has suggested the possibility of an opposition between primitive and modern logic, although for the reasons given it is not a satisfactory contrast. At times, Levy-Bruhl wants to shock by a radical distinction, stressing we cannot comprehend their logic, at other times he wants to blur and meld and reconcile the two. This might seem like wanting to have his cake and eat it.

Yet we can make a more perspicacious contrast between modern and primitive logic by regarding the central *features* held to characterise modern logic, as opposed to the simple quality of being 'logical' or 'illogical', which might now seem to be setting the theorist up for a fall<sup>33</sup>. The two central features of modern logic which will be relevant to a contrast will be, firstly, the place it accords to propositions (already commented on) and secondly that accorded to abstract concepts.

Dumitriu explains that the primary predisposition of primitive man was to think in images, and not in abstract concepts. He suggests that the images serving primitive thought enjoyed a particular fluidity on account of a lack of regularised logical relations in thought. *'Our concepts might be said to be surrounded by a sort of logical potentiality which makes their relations and logical play possible, whereas the primary elements on which the primitive man rests, and which do not always correspond to our own general concepts of things, are surrounded by a highly versatile psychical atmosphere which can deform the corresponding image at any moment'*. The 'image' should be thought to occupy a limbic space between the abstract symbol and the physical object. The fantastical drawings and carvings of primitive peoples should be thought a testament to the richness of primitive thought, while their art's strange combinations of humans with bird heads and animals with human heads serve as a testament to its natural fluidity. Concepts lack the definite border line required by the modern proclivity for logical precision. They thereby admit of a *'continuous process of interosmosis, an invisible communication, which grants an ampler but vaguer sense to their relations with Nature'*<sup>34</sup>.

Logicians have frequently lamented the inappropriateness of natural language for the purposes of logic<sup>35</sup> - yet primitive language represents a wholly different agenda altogether. By our own standards it is full of redundant forms, especially pronominal

<sup>33</sup> Of course, illogical thinking is hardly a concept which is controversial. It should merely be assumed to be controversial that it might constitute a logic, or can be understood other than as a mere privation of the logical.

<sup>34</sup> Dumitriu, P.7

<sup>35</sup> This is a school of thought originating with Leibniz, and latterly taken up by Bertrand Russell (who was famously troubled by the status of the utterance 'the King of France is bald'), which sought to replace our imprecise and misleading natural language with an ideal logical language. More recent writers such as Davidson have taken a more conciliatory approach, believing that 'a theory of meaning for a language is to be a theory such that whoever knows it is thereby enabled to speak the language' (Dummett, P.18) Thus, our natural language is already in order, we must merely seek to logically codify its grammatical complexities. Haak indicates some writers have been impressed by 'Chomsky's postulate of a deep grammatical structure underlying, but perhaps quite different from, its surface grammatical structure', and have correspondingly sought to identify the logical form of an argument with its deep grammatical structure, although Haak herself is skeptical of the possibility of a universal deep grammar between all languages. (Haak, *Philosophy of Logics* (C.U.P. 1978) P.26)



elements, merely to say the simplest things.<sup>36</sup> There is also often, for instance, a division of tense between near time and distant time. This conveys a concern with proximity to immediate concrete reality. There is a single-minded attention to detail (i.e. whether or not demanded by context), with a corresponding richness of vocabulary, yet there is also a dearth of catch-all generic notions. There is usually no one single universal number system - different number systems are applicable depending on what is being counted. Many of these considerations have led the Russian philosopher M. A. Dynnik to conclude there is a concrete mode of thinking wholly distinct from the purely abstract one.<sup>37</sup> Levy-Bruhl explains the concrete mode of thinking as founded on a 'pictorial' tendency which directly renders objects as if they were drawn or painted. Yet Dumitriu prefers a simpler, more epigrammatic formulation: reality is reflected in the primitive's spirit without the need for the processing of abstract concepts. He also finds in the visual mind-set a challenge to the principle of non-contradiction. For images *cannot* exclude one another the way propositions *can*.

Thus, I suggest, there is an analogy between the primitive mentality and considerations which led Wittgenstein to formulate his famous colour-exclusion problem, i.e. on what rationale is the simultaneous presence of two different colours said to be impossible? Similarly, in my discussion about Hodges, I noted that it is only when beliefs are rendered as sentences that it becomes possible to start declaring certain obvious combinations as inconsistent. Beliefs in themselves need not exclude each other - inconsistent beliefs can even be made into a virtue, as for Nietzsche.

## Logic in Ancient China

In Ancient China we find the same pre-disposition for concrete thinking combined with a foray into formalising the discipline of logic, with curious results. Because the Chinese did seek to privilege the proposition as the building block of logic, we can come to understand a little how their logical texts managed to combine a lack of systematicity, a jumbled collection of truisms, and a proclivity for paradox. As a result, the discipline of formal logic never really took off in ancient China. Whereas in the Aristotelian tradition and later for J.S. Mill, logic is explicitly understood as an organon for the pursuit of truth<sup>38</sup>, in ancient China, by contrast there prevailed the belief that the truth was

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<sup>36</sup> By contrast Quine has trumpeted a 'maxim of shallow analysis', which demands we encode natural language with the bare minimum of formal logical symbolism sufficient to maintain the validity of an argument. The very essence of formal logic, of course, depends on conciseness and abstraction. In themselves, of course, what details count as redundant to a proposition depends entirely on what is trying to be said. It will obviously seem paradoxical to us that one might say 'the black cat is on the woollen rug', if the intention is merely to indicate that the cat is on the rug. Then again, it has been suggested that the inclusion of redundant details in describing a person, for instance, are often a vehicle to air our personal prejudices. Novelists, too, often include redundant descriptive details, irrelevant to the unfolding of the story, imagining they are reinforcing the sense of an objective reality in the reader's mind. Perhaps we ourselves are often so in thrall to objective reality, that we do not know how to make assertions without giving reference to minute detail.

<sup>37</sup> Dumitriu, P.8

<sup>38</sup> Aristotle's five "logical" works were later grouped together by Aristotelians of the first century BC as the Organon (meaning tool). We should stress, however, that Aristotle did not use term organon himself. In fact, he did not even understand his famed logical invention, the syllogism, as an epistemological tool, but



discovered long ago. There is also the contentious issue, debated by sinologists, of whether the ancient Chinese had a distinct concept of philosophy or whether it was blurred with religion (the three primary religions in China being Confucianism, Taoism and Buddhism).

The hey day of philosophy in Ancient China took place between the sixth and the third centuries BC, during what is known as the 'period of the 100 schools', although we have definite knowledge of only about six<sup>39</sup>.

Mo Chia (the Mo School) is credited with developing dialectical method in China. Yet while the concepts it develops are obviously dialectical staples, there appears nothing very dialectical about the texts themselves. Its texts continually regale us with such isolated truisms as 'An explanation is an operation by which a thing is used to explain another', or aphorisms of insipid value such as ' "to praise" means to point out beauty, "to criticize" means to point out evil'. Yet we are assured by the Mohists that 'the expressions are not immovable, they are in continual movement'.<sup>40</sup> This is evidence, then, that the Mohists did not consider the proposition to be the vehicle of dialectic as such. We must conclude that dialectic occurred in a subtle worldly fashion, outside of the texts themselves.

Ming Chia (the School of Names) aimed to be sensitive to the pitfalls inherent in the logical power of names. Hui Shih-tzu's development of numerous paradoxes of time and space effectively demonstrates the School's belief in the essentially shifting, relative and paradoxical nature of reality, which eludes the simple referring matrix of language. Kung-Sun Lung developed the paradox of compound knowledge, which has sharp parallels with the broadly structurally equivalent paradox expounded by Antisthenes in Plato's *Sophistes*. Basically Kung-Sun Lung's ingenious argument is that a white horse is not a horse, because white is a colour not a horse, and the general concept of horse is independent of colour.<sup>41</sup> By contrast, Antisthenes argued that we cannot make such compound assertions as 'man is good'; all we can assert is 'man is man' and 'good is good'. Compound assertions invoke a combination of words which necessarily belie the single univocal object required by reality<sup>42</sup>. It was essential for Plato to counter this argument in the *Sophistes* in order to facilitate the possibility of propositions, which may be true or false, as the vehicle of knowledge.

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rather as a mirror of the causal mechanism immanent in nature). According to Kapp, that development came with the Stoics and their *Modus Ponens*. Though if we listen to Nye, the Stoics were just a bunch of professional sophists, whose development of the *Diadoran Conditional* enabled them to shun epistemology altogether.

I will also quote J.S. Mill, who at one point defines logic as "the science which treats of the operations of the human understanding in the pursuit of truth". Mill, *System of Logic* (London, Longmans, 1875), P.4

<sup>39</sup> Dumitriu, P.16, citing the ancient authority of Ssu-ma Ch'ien

<sup>40</sup> Dumitriu, P.19.... Dumitriu takes the Mohists at their word.

<sup>41</sup> Dumitriu P.27. There is also a roughly similar Mohist argument according to which "to slay a thief is not to slay a man" (Dumitriu, P.30)

<sup>42</sup> Kapp, *Greek Foundations of Traditional Logic*, (AMS Press, New York, 1967) P.52



The work of modern sinologist Fung Yu-Lang suggests that Ming Chia, and first and foremost disciple Kung Sun-Lung, clearly hinted at the possibility of universals, while relegating them to the domain beyond experience. Apparently Kung Sun-Lung understood a division between *inside* forms and figures, which was designated *shih* (reality) - this also comprised *wu* (objects of experience) - and *beyond* forms and figures, which Fung Yu-Lang indicates we must interpret as universals. Correspondingly, and paradoxically, these universals cannot be *wu*. Universals are beyond experience yet, even so, a pre-requisite of it. (Remember how, in the same way, Luce's God of Logic stood beyond experience, while mingling in the shadows and subjecting all and sundry to His strict discipline).

Universals are also problematic in that they are beyond the scope of analysis; they constitute its empirical limit. There cannot be universals of universals<sup>43</sup>. This strangely foreshadows Quine's rejection of second-order predicate logic<sup>44</sup> over 2000 years later. Thus Ancient Chinese philosophy grapples with the building blocks of modern logic, though ultimately preferring to retain its firmly concrete and grounded character.

The thesis of the Rectification of names, common to both Ming Chia (courtesy of Yin Wen-Tzu) and also Ju Chia (Confucian school), perfectly exemplifies what we have said concerning the judgemental and legislative character of logic, and the intimate connection between the nature of logic and temporal authority proper. We will quote Confucius argument in full, as found in the Lun-yu:

*"Tzu-lu says to Confucius: The master from Wei wishes to entrust you with government. What do you think is the first thing to do? The main thing is the rectification of names (cheng ming) answers Confucius, and he adds: If the names are not rectified, the words cannot fit; if the words do not fit, the affairs [of state] will not be successful; if these affairs are not successful, neither rites nor music can flourish; if rites and music do not flourish, punishments cannot be just; if these are not just, people do not know how to act. Therefore, when the sage establishes designations, he should take care that the words are fitting, and when he uses them in speech, he should see that they result in proper action. The wise man should never use levity in using words."*<sup>45</sup>

According to Fung-Yu-Lang, such pre-occupations as the thesis of the rectification of names can be understood by reference to the social context in which it was espoused: 'People waited desperately for an end to political unrest and "the rectification of names" was one of the means whereby order could be established'. We are also told that Li Seu and Han Frei-tzu, disciples of the rectification 'school', played an important part in the political and ideological reunification of China.

<sup>43</sup> Dumitriu citing J. Needham, P.29

<sup>44</sup> i.e. A predicate is a logically fumigated version of the universal. 1<sup>st</sup> order predicate logic treats of the predication of individuals. 2<sup>nd</sup> order predicate logic seeks to treat of the predication of predicates. Similarly, we can regress to any higher order of predicate logic. 2<sup>nd</sup> order predicate logic (and above) must contend with Russell's paradox. Quine also rejects the whole ontological commitments of 2<sup>nd</sup> order predicate logic. To re-iterate Kung-Sun Lung, universals are not *wu*. and form no part of *shih*.

<sup>45</sup> Quoted in Dumitriu, P.29



## Logic and Social Decay

The idea of logic as a bulwark against social disintegration, or a weapon with which to impose social order, is surprisingly common in the sociological history of logic, particularly in Nye and Nietzsche.

Let us cite Nietzsche's employment of the trope:

*'The same kind of degeneration was everywhere preparing itself: the old Athens was coming to an end. – And Socrates understood that all the world had need of him – his expedient, his cure, his personal art of self-preservation... Everywhere the instincts were in anarchy; everywhere people were but five steps from excess: the monstrum in animo was the universal danger. 'The instincts want to play the tyrant; we must devise a counter-tyrant who is stronger' [Nietzsche is referring to the Socratic art of dialectic]*

.....

*The fanaticism with which the whole of Greek thought throws itself at rationality betrays a state of emergency: one was in peril, one had only one choice: either to perish or – be absurdly rational.'*<sup>46</sup>

I should say however that Nye over-uses the trope to the point of vapidness. For if the history of logic unfolds parallel to Universal History, then this mind-set demands some backdrop of social disintegration must be found to account for every single historical instantiation of Logic. This is not to dispute Nye's project, yet it must be asked, if we are to gain some perspective, which period of history *cannot* be *potentially* understood as one of some sort of social unrest, with a little hermeneutic application? (And in Anthony Giddens' philosophy, social discord is merely the visible, manifest form of social contradiction, a *universal latent social discord*)

Let us nevertheless quote Nye's useful historical overview of her hermeneutic project:

*Different men, different lives, different logics: Parmenides, searching for an eternal what is in a Greece only just emerged from the dark ages that followed the destruction of Mediterranean culture by migrating Greeks: Plato, insisting on absolute Goodness in the midst of the disintegration of the traditional order of the city-state as foreigners, speculators, and money-lenders crowded into Athens; Aristotle, promoting a science based on necessary truth as he watches the collapse of Athenian hegemony in the Aegean; Zeno the Stoic, constructing a grammar of the cosmos as he and others try to come to terms with life in the new Hellenistic empire of Alexander the Great. Could they have all been thinking the same thing? The same things as Abelard and Ockham thought, centuries later when God, the divine Logos, was thought to have spoken and all relations between God and man were being renegotiated; or as Frege thought, the logicians' logician, working out the elegant details of his new logical notation in Bismarck's Germany, surrounded by economic crisis and infected by the ethnic and racial hatreds that would eventually support Fascism?*

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<sup>46</sup> Nietzsche, *Twilight of the Idols* (Penguin, 1990), P.43



While Nye is ever successful in demonstrating the estrangement of particular systems of logic from empirical reality, the recurrent problem with her analysis is that she can do no more than crudely juxtapose her presentation of each formal system of logic next to its grand historical context, thereby leaving the nature of the connection opaque and merely urging the reader, perhaps, to draw their own connections. Her approach generates more questions than it answers. A critique of the very idea of a grand historical narrative would be far more in order.

### The logic of Concrete Reality

We have seen that the logical mechanism of Chinese thought is based in concrete reality. We should recognise that 'concrete reality' is not a merely specious and unsustainable metaphor, devoid of conceptual content, as might be brushed aside by modern hard-working logicians. Rather, as if fitting, the logical mechanism of Chinese thought is interwoven with the very fabric of the social concrete reality, in particular, with the social institution of its language.

Dumitriu explains that the Chinese language is saturated with affective elements. These are especially facilitated by the ideograms of the written language, images which stimulate the imagination, though spoken language possesses just the same connotative power. He suggests that the ~~idioms~~ <sup>idiograms</sup> are meant to induce in the hearer a psychological state making him receptive to a particular truth.

We can interpret this state of affairs as symptomatic of the whole deferential and pedagogical structure of Chinese society, which venerates the *tzu* (master)<sup>47</sup>. For the Ancient Chinese, the truth was discovered long ago, we must merely make ourselves receptive to it. It is similarly a rejection of the Cartesian ego-centred epistemological project, methodical and punctilious, with which we are familiar in the west. Paradoxically, however, my claim will be that the whole institution of logic is only made possible by the structures of pedagogy.

There are many different words for an old man in China; these are necessarily sensitive to the multifarious particular modes by which an 'old man' may be socially embedded in society (for example, can he walk with or without a stick? is he exempt from military service?), so diffuse as to have little pertinent in common. Dumitriu tells us that a word "does not represent an abstraction [as in Indo-European languages], but a complex of visual images, whence its evocative and descriptive power"<sup>48</sup>. Furthermore, it is not a simple sign but a vocal emblem, which serves to depict a natural emblem. There is an interplay between the vocal emblem and the natural emblem which facilitates a poetic mentality. Mastery of the emblematic complex is a path to 'capturing' the thing. We should note, by contrast, that the metaphor of capture is a particularly strong one in Nye's

<sup>47</sup> The ancient authority of Chi'ien Lung catalogues 14 classes of *tzu* which structure ancient Chinese society, Dumitriu, P.14.

<sup>48</sup> Dumitriu, P.31



analysis of Greek dialectic; yet in Greek dialectic it is the questioner seeking to capture his passive adversary in his net.<sup>49</sup> By contrast, Chinese society possessed a cohesive and deferential fabric (borne of Confucianism). Language (and specifically paradox) was thereby a tool with which to excite the imagination of the other, rather than entangle him.

We should note, however, that there is one hermeneutic path by which the nature of Chinese language directly *leads into* the pre-occupations of Western logic. This was identified by Leibniz. There is a simple perspective according to which every sign corresponds to an idea. The conceptual fuzziness of the idea (by Western lights) and the problematic issue of 'mastering' that emblem need not impinge on the simple univocal and bilateral correspondence between 'a sign' and 'an idea'. This consideration led Leibniz to exploit it as a basis for a universal logical language, which would straightaway present ideas, not just words.

Notwithstanding that Leibniz's vision of a perfect logical language draws on the Chinese language (a vision which, we must stress, never goes beyond a vision<sup>50</sup>), he nonetheless jettisons its worldly and concrete character. It is as it were that Leibniz merely sought the background psychological *reassurance* of an incontrovertible ideogrammatic reference, unencumbered by the problematic semantic baggage of natural language, so that he could pursue with all the greater vigour an attenuated *pure logic*, all the more estranged from worldly reality as a consequence. Scholz tells us that Leibniz sought to make logic independent of *thinking*, so to endow it with a pure mathematical content. The rules of syllogising would then become merely the rules of calculating<sup>51</sup>. Thus Leibniz sought to abandon the joy in the particular so characteristic of ancient Chinese philosophy, as encapsulated in the way a Chinese philosopher-poet might seek to capture the hidden logic, beyond mere onomatopoeia, expressing the play of two crickets. Leibniz rather desired that *abdication of thought* which would allow him to substitute that mimetic pretence of a 'surface play' of mathematical symbols, borne of an amnesia to their semantic origins. Compare Frege's similar sentiments:

*"Logical importance is by no means the same as psychological importance. When we consider the intellectual work as it actually proceeds, we find that a thought is by no means always present to our consciousness clearly in all its parts. When we use the word "integral" [i.e. the mathematical operator], for example, are we always conscious of everything that belongs to the sense of this word? Only in very rare cases, I think."*<sup>52</sup>

<sup>49</sup> Nye, pp 25-29

<sup>50</sup> this is a state of affairs which pains Scholz earnestly (an early 20<sup>th</sup> C historian of logic much in thrall to Leibniz): "We should emphasise at this point earnestly so that nobody will fail to hear it: We are still far distant from a realization of the magnificent idea which is responsible for Leibniz's conception of symbolic logic" Scholz, *Concise History of Logic* P.68

<sup>51</sup> I suggest that Dostoyesky could be thought to be parodying such a view in his 'Notes from Underground' (*Zapiski iz Podpolya*, 1864 / N.F.U. Penguin, 1972). The narrator muses that, within time, the actions required of us which accord with our best interests will be calculable from logarithm tables, so that human freedom will become no longer necessary. The narrator nevertheless determines to revel in the idea of human freedom, and act against his best interests, 'just because he can', irrespective of the pit of depravity into which these actions will lead him. Dostoyesky's 'Notes from Underground' has been interpreted as the founding text of Russian nihilism, and by extension, the ideology of modern terrorism.

<sup>52</sup> Dummett quoting Frege, *Origins of Analytical Philosophy* (Harvard, 1993) P.103.



Thus when Leibniz gives the second of his *charcateristica universalis* (the set of which forming his logical manifesto) as, in Scholz's words:

“ [that] the symbols must be so devised that whenever a thing thought is present, which may be divided into its components, the “image” of these components must again be components of the picture of what is thought in the available symbols.”<sup>53</sup>

we see that Leibniz is really attempting to cover his back. The reality is rather going to be as Frege understands it: very little is really “thought” in the symbols whatsoever. (What possible meaning could we give to the ‘thing thought’ being present in the case of an integral sign in any case, if we are not to take refuge from the real world in some platonic realm?) Yet it may be said of Michael Dummett's whole project in the philosophy of language, moreover, that he attempts to privilege the impersonal conventions and mechanics of ‘meaning’ over the deeply human and contingent element of ‘understanding’. A typical thought in Dummett's philosophy has it that understanding presupposes meaning, but meaning does not presuppose understanding, a sentiment which nevertheless Mason seeks to challenge<sup>54</sup>.

### East meets West: the geography of logic

The conclusion we are driving towards is that the Orient presents a fundamentally different mentality to the Occident. This contrast serves to localise and undermine the pretensions to absoluteness of Western logic. Dumitriu gives us a neat summary of these respective geo-cerebral differences, courtesy of the work of Liou Kia-hway. The European spirit is *analytical*. The Chinese spirit is *synthetic*. (We can use Kant's *Logic* to elucidate this distinction. The analysis of a concept involves a purely methodical dissection of the *actual concept* itself. The synthesis of an object draws on its experiential attributes to present a *possible total concept*<sup>55</sup>). Thus analysis maintains a special logical hygiene suited to the unique business of logic. If we reverse the process, so as to delve into the caverns of the Western psyche itself, it is easy to see how Liou Kia-hway maintains that the Western spirit strives to *build up an abstract whole without parts*. (Parts would obviously contaminate the logical integrity of the abstract whole). By contrast, the Chinese synthetic spirit strives to *build up a concrete whole with parts*.

Kia-hway poses a further distinction between Western philosophy of essence and the Chinese philosophy of existence.<sup>56</sup> The former entails a search for those invariable and permanent characteristics which constitute the essence of things. The latter, on the contrary, concerns itself with the existence of individuals which are undefinable, with countless and infinite variable differences. Now, such a critique of Western philosophy is

<sup>53</sup> Scholz, P.55

<sup>54</sup> E.g. “There are no grounds to insist that any conditions are sufficient or necessary for understanding” Mason, P.42 – so understanding does not presuppose meaning, and must be considered as a human phenomenon *sui generis*

<sup>55</sup> Kant, *Logic*, (London, Longman, Green and Co 1885) P.49

<sup>56</sup> Dumitriu P.32