

learning logic

Geach invariably explains the successes of logical corruptions in logic text-books as deriving from the uncritical culture of artificial and stilted norms which inform pedagogy as a whole. There is irony when Geach hints at how “school-boys” ironically re-deploy the very normative principles they have learnt in the phenomenon of logical sophistry.

For example, Geach elucidates Aristotle’s earlier belief in of the heterogeneity of nouns (*onoma*) and verbs/predicables (*rhema*). Aristotle tells us that *rhema* have tense and *onoma* do not. Geach makes the qualification that arithmetic and geometric predicables do not have tense (for example, “a square has four sides” is not intended to designate a *present* quality of a square). Yet Geach is adamant that if a school-boy is asked for the date of Augustus’ birth, it will be “mere cheek” for him to reply “Please, Sir, he wasn’t called Augustus then”. Geach proceeds to elaborate that ‘*once the name “Augustus” has come into use, it relates to Augustus throughout his career, and still serves to name him though he is long dead*’⁹³, yet does not register that this is nonetheless an arbitrary social convention rather than a necessary truth.

Geach tells us that a further Aristotelian distinction between names and predicables is this: we can negate a proposition by negating the predicative part but not the subject part. Thus presented, however, we might query what actually counts as the “accepted academic definition” of negating a proposition. Geach’s strategy is to demonstrate how the ‘logical howler’ which is to think that we can negate a proposition by negating the subject term leads into this bogus syllogism:

I am no horse man
No horseman could clear that fence;
Ergo: I could clear that fence

Now this ‘bogus syllogism’ is clearly funny, and would presumably be popular with “school-boys”. The irony is that the proposition “No horse-man could clear that fence” is actually perfectly grammatical as meaning ‘Any horseman could not clear that fence’ yet Geach has legislated against this usage presumably because of its potential for “school-boy” subversion.

A similar “schoolboys’ fallacy” serves as a foil for Geach’s discussion of another ‘convention’: that “if there are no dragons, ‘All dragons are blue’ and ‘No dragons are blue’ are both true.” Geach describes how analysing the convention (in itself harmless to his mind) according to the corrupt ‘two class’ theory, essentially through interpreting ‘no dragons’ to denote as a specific class of dragons, nonetheless opens the way to a “schoolboys’ fallacy”.

Geach’s label of “schoolboys’ fallacy” might be thought to make out “schoolboys” to sound stupid and oblivious to the very fallacy. Yet perhaps the ‘fallacy’ could actually be

⁹³ Geach, P.2

being deployed so as to poke fun at such conventions. After all, it would seem daft to state 'All dragons are blue' if there were no blue dragons. Presumably because wearing his professor's hat, Geach does not perceive this potential subversive aspect to sophistry. Thus we should primarily understand sophistry not according to the protocols of logic but according to its ulterior social agenda.

As Kapp notes, Aristotle's chapter on the "Sophistic Elenchi" (logical fallacies) at the end of the Topics has always been a dry staple of logic text-books. Kapp suggests that even though Aristotle "*mentions the value of this part of his syllogistic for serious philosophic thinking*", i.e. as presented in text-books, "*the immediate subject of his enquiry is.... a highly artificial and, as we should say, unnatural one, namely, deliberately, even professionally, coined false reasoning*"⁹⁴. In fact, we need not take the Sophists' word-play too seriously, because it is highly unlikely the Greeks did so themselves.

To make his point, Kapp sets the stage for an example from Plato's Euthydemus: 'Two brothers, Euthydemus and Dionysodorus, have the misfortune to talk to a none-too-impressed interlocutor, a very self-confident and clever young man, Ctessipus'. The dialogue runs thus:

*'If you will answer my questions, said Dionysodorus, You say that you have a dog. Yes, a villain of a one, said Ctessipus. – And has he puppies? – Yes, and they are very like himself. – And the dog is the father of them? – Yes, he said, I certainly saw him and the mother of the puppies come together. – And he is not yours? To be sure he is. – Then he is a father, and he is yours; ergo, he is your father, and the puppies are your brothers. Let me ask you one little question, said Dionysodorus, quickly interposing, in order that Ctessipus might not get in his word: You beat this dog? – Ctessipus said, laughing, Indeed I do; and I only wish that I could beat you instead of him. Then you beat your father, he said. – I should have far more reason to beat yours, said Ctessipus; what could he have been thinking of when he begat such wise sons?'*⁹⁵

Just as with Geach's example, the logical sophism obviously cannot be intended literally. In Plato's dialogue, all parties are fully aware of the laughability of the argument. They are more interested in the subversive aspect of the encounter than analysing the logic of the argument. We should point out, however, that Kapp asserts that training in such rhetoric was actually 'sold for a short time as a genuine education in the art of thinking and arguing'. Yet with the advent of the Academy and Lyceum, 'as competition with serious education the old sophistries had lost all danger'. They became merely 'interesting subjects for dialectical exercises'⁹⁶. With Geach's experience, the didactic and the subversive aspects of the logical fallacy come together.

When there is no potential for subversion, because our logical sense has been well and truly stunted, pedagogical practice directly informs Geach's history of the corruptions of

⁹⁴ Kapp, pp62-63

⁹⁵ P.63

⁹⁶ P.64

logic. And on the basis that Geach regarded his contemporary logic as still more or less corrupt, it would seem reasonable to merely conclude that pedagogy under-girds all logical practice in a non-trivial sense.

Aristotle's two-term theory was succeeded by what Geach calls Mill's 'two-name theory'. We need not go into the details of the theory. Geach regards it as equally flawed for failing to do justice to the natural prepositional form from an entirely different angle. What is significant for our purposes is to note that Geach regards its one-time success to have been facilitated by the culture of pedagogical training in arbitrary drill. The two-name theory requires that we dress up a proposition such as 'Brutus stabbed Caesar' as something like 'Brutus, stabber of Caesar'. Geach writes dismissively that *'for the most part the art of 'putting into logical form' has been simply a drill without clear rational, like school grammar'*. Thus we do not expect logical propositions to sound natural, and as a result we lose a critical and instinctual sense of whether they are right or wrong.

In similar vein, Geach attributes the flaw of the successor-theory to the 'two-name theory', this time the 'two-class theory', to the undesirable effects of pedagogical training. Geach identifies what he calls the segmentation fallacy, according to which logical propositions can be sliced up and equivalences mistakenly postulated between the segments. Geach has a scape-goat. *'We are prone to the segmentation fallacy because, in the first elementary foreign language lessons we have, we do learn to pair off bits of the foreign sentences with bits of an English sentence and vice versa'*⁹⁷.

Geach's comments on the significance of logical examples are also interesting. He describes a historical shift in the style of these choices to match the corrupt models they are supposed to serve. Indeed, it is undoubtedly true that the phenomenon of logical examples serve as a 'way in' to the obscure and enclosed world of logic. Logical examples thus serve as gate keepers, enforcing a particular mode of interpretation which facilitates comprehension of the abstract model 'lying beyond'. Geach describes the historical shift from rendering universal propositions in the form 'Every so-and-so is...' to 'All so-and-so is...', matching the paradigmatic shift from the 'two name theory' to the 'two class theory'. Both forms have essentially the same meaning yet entail wholly different metaphysical interpretations.

Another example of the significance of the logical exemplar concerns Kant's analytic/synthetic distinction. So as to elucidate the meaning of an analytic proposition, in which the predicate is somehow 'contained' within the subject, Kant gives the example of 'gold is a yellow metal'. In the twentieth century, however, the standard example became 'all bachelors are unmarried', which suited the trend of defining analytic propositions in terms of the mere definition of the subject-term rather than metaphysical containment. Correlatively, science now understands the concept of gold in terms of its atomic number rather than everyday properties such as its colour, and so a philosophical conflict arises between the everyday and the scientific understanding of what gold is - between adjudging what is somehow necessary to the concept and what is somehow incidental. Consequently the whole idea of a predicate being 'contained' within a subject becomes

⁹⁷ Geach, P.15

confused. Quine subsequently argued that the whole analytic-synthetic distinction, understood in linguistic terms, is fallacious in any case. Obviously the confusion arises in the first place because the distinction is wholly artificial and scholastic - it was invented by Kant - and we need examples to understand its meaning.

A very straight-forward illustration of the significance of logic examples comes from testimony. It is, to be sure, a fictional but highly amusing and perspicacious testimony, with which Andrea Nye opens her book, *Words of Power: A Feminist Reading of the History of Logic*. I will quote from it.

"She opens to the first page of Quine's Methods of Logic. Even this first week of class there are exercises to be handed in:

Which of the four cases: Jones ill, Smith away; Jones not ill, Smith away; ones ill, Smith not away; make the statement: 'Jones is not ill or Smith is not away,' come out as true when 'or' is construed exclusively?

'Jones away,' 'Smith not ill': the phrases jangle in her mind. Nonsense syllables. Was Jones often ill? Not ill today for once? And why? And Smith so often gone. Where?

....

It would help, she tells herself, is she did not read the words, but sees them as marks.

....

Her head aches, she is doing it again. Reading. It is so hard to stop. She has come to philosophy from literature, from Dostoyevsky, George Eliot, Nietzsche, from puzzling with Ivan over the parable of the Grand Inquisitor, from doubting with Dorothea the adequacy of Casuabon's approach to knowledge, from thrilling and fearing the mad teachings of Zarathustra. Now she is to be a philosopher. And logic is required. But logic, she is learning, is not a feminine subject"⁹⁸

Clearly the study of logic rests on highly artificial and coded examples which can serve as a barrier to entering the world of logic. These examples embody logic's inability to speak of real life. Nye makes the commonly made observation that the discipline of logic is a self-enclosed, intimidating and male world, one which correspondingly repels many women.

Corollary to the indirect means by which pedagogical training prepares the way for corrupt logic text-books, is the far more direct means by which the flaws of bad logic text books are reproduced in new generations of text-books. Obviously the very nature of a textbook is to train future logicians. Presumably the collective-sense logical sense soon becomes too blunted for the flaws to become noticed.

⁹⁸ Nye, P.1

Here is an impassioned passage wherein Geach discusses the process:

'Logic in this last stage of decrepitude is called 'the traditional logic' [i.e. the two-class theory] : and it is mendaciously claimed that these doctrines have held the field continuously since the time of Aristotle. In some Colleges of Unreason this sort of logic is called 'logic' tout court, and either is the only logic taught or at least is a piece of examination material that must be mastered before any other logic is studied. Some bad old text books are still studied in their fiftieth or sixtieth thousand. It is as though flat-earth geography were still a compulsory subject.

Between such logic and genuine logic there can only be war; what fellowship has light with darkness? A training in the two-class logic inculcates bad habits of thought that a training in modern logic cannot always eradicate. Those who get such a training grow up and write logic books in which the old stuff is presented as a legitimate though minor part of logical theory; and so the sorry business goes on'

pedagogy and epistemology

Now, our remarks on pedagogy so far might be thought to concern merely the proliferation of bad logic – Geach's monograph is entitled *The History of the Corruptions of Logic*. One might reasonably hypothesise that we will never have the pleasure of a fool-proof formal system of logic. Yet we must re-direct our attention towards logic as a naturalised process (for we already have to use logic) and pedagogy as a system of the transmission of "knowledge". Pedagogy both assumes the *a priori* possibility of knowledge and the possibility of the learner legitimating that knowledge, at least to her own satisfaction. Thus pedagogy and epistemology are two sides of the same coin. They both require a logic of learning. The very idea of knowledge is inexorably open to logical critique, yet we also desire logical legitimation in the process of acquiring of new knowledge, whether this is purely by our own lights, or the learning of 'pre-packaged' pedagogical knowledge (to be sure, we cannot truly disambiguate one from the other). Logic serves both as an epistemological critique, in Kant's formulation, and as an epistemological catalyst, or organon in the pursuit of truth, in Mill's formulation. In this way abstract logic is co-opted into natural processes. It must remain to be seen whether logic is compromised in the process.

Plato is remarkable for denying the possibility of a logic of learning. This applies equally to the egotistical and pedagogical senses. In the *Meno*, Socrates is attempting to determine the nature of virtue in dialogue with Meno. Socrates professes ignorance. Meno is able to propose particular virtues but Socrates will only settle for an understanding of virtue in general, which proves elusive. "Socrates is challenged by Meno with what has become known as the sophistic paradox, or paradox of knowledge".⁹⁹

⁹⁹ Wikipedia, <http://en.wikipedia.org/wiki/anamnesis>.

I will quote extensively from Wikipedia here as it is so succinct.

‘Meno: And how are you going to search for [the nature of virtue] when you don’t know at all what it is, Socrates? Which of all the things you don’t know will you set up as target for your search? And even if you actually come across it, how will you know that it is that thing which you don’t know?’

“In other words, if you don’t know what the knowledge looks like, you won’t recognise it when you see it, and if you do know what it looks like, then you don’t need to look for it” i.e. you know it already. “Either way, there’s no point in trying to gain knowledge”.

“Plato’s response is to develop his theory of anamnesis. He suggests that the soul is immortal, being repeatedly incarnated; knowledge is actually in the soul from eternity, but each time the soul is incarnated its knowledge is forgotten in the shock of birth. What we think of as learning, then is actually the bringing back of what we’ve forgotten..... And thus Socrates (and Plato) sees himself, not as teacher, but as midwife, aiding with the birth of knowledge that was already there in the student.”

This is all very well when we are indubitably learning/“remembering”, as occurs in Socrates spectacular demonstration of spurring the slave-boy to mathematical insight; Plato merely provides us with a different interpretation of the process.

Yet the corollary is that we cannot make ourselves learn. Unknown knowledge will always be elusive. As the Wikipedia puts it: ‘Since no-one really learns anything, there are no teachers or students, so virtue cannot be taught’. Socrates concludes the Meno with the bizarre utterance that ‘virtue comes to the virtuous by the gift of the god.’

the significance of induction

It is traditionally recognised that whereas the essence of formal logic is to be found in *deduction*, the process of empirical epistemology is to be found in *induction*. Hume famously formulated the problem of induction, according to which induction is not technically logically justified, that is, by the protocols of deduction. By ‘Hume’s Fork’, all supposed knowledge which did not constitute either matters of fact or relations of ideas was to be consigned to the flames.

The roots of the concept of induction go back to Plato. The Greek *epagoge* means to lead or bring a person to something. In the *Statesman*, Plato uses the concept in his discussion of teaching children to read. He talks of *bringing* them to that which they do not as yet know, by a process of comparison with what they do know. With Aristotle, however, *epagoge* (induction) becomes a technical term, and comes to mean ‘leading a person on to a universal truth by confronting him with single instances in which he is already able to see it’. In Aristotle’s example, ‘if the skilled pilot is the most efficient, and likewise the skilled charioteer, in general the skilled man is the best at his particular task’. Aristotle also makes an interesting distinction as follows: induction is better against the crowd, for it is closer to sense-perception and the many have it in common; syllogism, on the other hand, is most effective against professional debaters.

Induction takes place between two people and facilitates the teaching of 'indemonstrable' truths. It is applicable when propositions cannot be scientifically deduced.

Kapp explains that Aristotle is normally clear that induction is only analogous to sense-perception – the former involves the acquisition of universal truths from particular cases, the latter involves attainment of universal concepts from single sense-perceptions.

Aristotle avers, as a psychological fact, that the soul is so constituted to be capable of this process. This suggests that Aristotle does not intend sense-perception to be considered as a special logical procedure.

However, in some places, Kapp indicates, Aristotle is guilty of muddying the waters by talking of two senses of induction. It appears that it is this peripheral other *empirical* sense of induction which has been historically taken up as constituting induction proper, and has laid the foundation for the whole deduction/induction antithesis and the modern Humean problem of *proof by induction*.

Aristotle's *pedagogic* induction is a natural '*way of making another person see a universal truth immediately by the eyes of his own soul*' Proof by induction, on the other hand, is merely '*a way of verifying a universal assertion by going through the particulars concerned and showing there is actually no exception*'¹⁰⁰. Of course, this leaves the door open for a Hume to argue that we can never exhaust all the particulars, and so there is no inductive knowledge. Such considerations did not bother Aristotle, however, who felt assured of the existence of universal truths and the possibility of some people knowing them; thus the thought that we can never validate all the particulars concerned does not invalidate the universal truth. More pertinently, Aristotle also applied 'proof by induction' to cases where all of the particulars could be known, as in simple cases of grammatical classification. Kapp is prompted to remark that '*the only interesting thing here is the pretentious name for a more than simple logical procedure; I think it is fairly certain that the name [induction] was not invented for this type of induction, but borrowed from the other kind, which was certainly important enough to be designated by a technical term*'¹⁰¹.

Moreover, it is to be thought uncontroversial that some people will possess knowledge (of universals) which others lack. It is for a teacher to guide an individual from the particulars to the universal. The process may not be formalisable¹⁰², yet faith that the teacher does actually possess this knowledge will guide this process.

As given, I suggest, Aristotelian induction presents a challenge to the punctilious ego-centric project of Cartesian epistemology. Kapp stresses the ineluctably social context to

¹⁰⁰ P.78. Kapp makes clear that Proof by Induction is a very minor argumentative principle in Aristotle however.

¹⁰¹ P.84

¹⁰² ... except insofar as the exchange will often be dialectical in format and involve the teacher questioning and the pupil answering. We must bear in mind however Aristotle's advice that induction is better against crowds and syllogism against debaters. The two concepts get mangled together however in the concept of syllogism by induction, which is another name for proof by induction.

Aristotelian induction: *"We have to distinguish between the external performance, which is entirely dependent on the questioner's purpose and his dialectical skill, and what is happening in the soul of the respondent, happening as a psychological fact but not as an act of solitary thinking"*.¹⁰³

I suggest there is also the aspect of the occult about Aristotelian induction; there is the idea of secret esoteric knowledge which we cannot attain purely by our own rationality. We must make submission to a guru. Indeed, the tradition of the Oracle was particularly strong in Ancient Greek society and myth. It was the Delphic Oracle which proclaimed to Socrates the wisest man in Greece. Famous mottos of Delphi, which Socrates learned there, include *Gnothi Seauton*: "know thyself", and *Meden Agan*: "nothing in excess". Croesus of Lydia also consulted Delphi before attacking Persia, and according to Herodotus received the answer "if you do, you will destroy a great empire."¹⁰⁴

With this idea of esoteric knowledge at the heart of Aristotelian logic we directly recall the Ancient Chinese philosophy. For the Ancient Chinese the truth had been discovered long ago. The difficulty was to access it in its sublime purity. In fact, the Ancient Chinese had their own version of Aristotelian induction, as explained by Liou Kia-hway.

"Penetrating induction is a reasoning by analogy which takes place under tension, a reasoning which is aimed at intensely evoking to the mind the law of generation of particular cases, but which neglects the passage from one particular case to another which underlies Stuart Mill's Induction".¹⁰⁵

conclusion – the pedagogical heart of logic

We might suggest that the whole of Logic constitutes a secret esoteric knowledge, whence its power. Just as, in the present day, it radiates the aura of exclusivity, it also brings to mind the ivory towers of the ancient universities. Yet somewhere along the line, between the wisdom of the Delphic Oracle and the present day, Aristotle's bequest to civilisation has been defaced. Logic has become the enforced religion of secular society. Yet our zeal springs forth from our epistemological purdah from the nature of the sacred object – we live under the veil of ignorance. It was born as an artificial invention (symbolised in the syllogism) yet from the first tinged through and through with pedagogical structures. The syllogistic weapon was also perfectly suited to use in the new Socratic culture of dialectical exchanges. Of course, nothing but a wholly abstract and ethereal structure, dressed up as something of real importance, could necessitate a more urgent need of learning. The Emperor Doth Wear No Clothes. Logic embodies the

¹⁰³ pp83-84

¹⁰⁴ Source: <http://www.answers.com/topic/delphi>

¹⁰⁵ quoted in Dumitriu, P.35

In fact, there is an irony in Mill's philosophy of induction. For he believes that it is possible to reason from particular to particular without the intervention of a universal middle term, e.g. from the mortality of persons X, Y, Z etc to the mortality of Socrates, instead of reasoning Socrates is mortal, All men are mortal, therefore Socrates is mortal. He is loathe to suggest that the middle term is redundant to the syllogism, because, as he is well aware, this would create an invalid syllogism (e.g. Socrates is a man, therefore Socrates is mortal). Mill sets logic on such a pedestal that he is afraid to impugn to sacredness.

inventor's dream: a dispensable idea which became indispensable. This occurred on a world-historical scale.

Nietzsche understood Socratic dialectic as embodying the revenge and *ressentiment* of the rabble. Yet perhaps the longed-for redemptive value of Dialectic died with the death of Socrates. He was tried by the hand of his own dialectical institution, as recounted by Plato in the *Apology*. Thus Aristotle was left to contrive the syllogism as a purely artificial contraption. It arrived, as it were, still-born, lacking all socially redemptive possibilities from its very incipience.

In its pure abstraction its theoretical foundations were inevitably misconceived to boot, as Geach has demonstrated. Logicians ever since have grappled with the caesurae between logic and empirical reality. Though they invariably prefer the security of the logical realm, only empirical reality will provide the only benchmark by which we can ever judge the correctness of logic. Similarly, logicians have always sought the congruence between the psychological laws of thought (or mere thought) and the *correct* laws of thought (as Kant believed was possible), yet the very idea of 'correct' laws necessitates an impossible standard of legitimation outside of thought itself. Such considerations will not concern the subjects of logic as a pedagogical imposition, of course. Nye reflects on the normative force of logic:

*Logic has provided scripts for particular settings, the law court, programmed debate, theology and science. At the same time it presents itself as universal. All men, even women, should think logically; any communication that is not purely expressive and that aims at the truth should be logically ordered. This is the way to be critical, and this is the way to guard against falsity and deception. This is the way men, and now women, should be taught to think.*¹⁰⁶

....

*Forget what is said. Don't think. Logic will teach you to be critical, to learn not to accept an argument as true without demanding an argument, it will teach you to defend your position with force. We must learn to think logically, learn to demand support for claims, catch incorrect inferences, search for inconsistency.*¹⁰⁷ [Nye's emphasis]

¹⁰⁶ Nye, P.184. Nye continues: 'But retention of a list of carefully chosen facts, even when supplemented by the logical rules of combination, is no guarantee of any effective response to the call of patriotism, or to the defense of the traditional family, or the policing of black criminals'. I believe that such a proposition is known in the logical trade as a NON-SEQUITUR! Throughout her book, Nye fails to make any meaningful functional connection between logic and either world-history or mainstream sociology. Nye believes Fregean symbolic logic to be responsible for rape and domestic violence against women, which is nonsense. Its not even wrong.. I believe that Nye's problem occurs when she reifies logic so as avoid all engagement of logic on its own terms, and in this way she can throw 'Logic' into the social arena as some sort of independent social agent. As I have indicated, any sociology of logic must be integrally entwined with a meta-logical critique. In Nye's work she skips between the two analyses all too casually and the shoddy quality of the joinery is all too apparent. Yet when Nye engages and critiques logic on its own terms, yet remaining the critical outsider, she is unfailingly perspicacious

¹⁰⁷ Nye, P.181

Nye is obviously attempting to be ironic. Yet her irony dances above and below the parapet, such that we may inadvertently lose sight of it completely. It is hard not to recognise the compelling force of logic, as rendered by Nye. At the same time we cannot but recognise the suffocating force of logic as a social institution.

Chekhov's story *Ward 6* should be seen as a parable which exemplifies the regrettable consequences of being logical. It centres around two characters, Ivan Dmitrich Gromov, who is incarcerated in a psychiatric unit (Ward 6), the most hellishly awful place imaginable, and Dr Andrey Yemifitch Ragin, the psychiatric doctor who comes to visit Gromov from time to time.

We might say Gromov has been incarcerated for being *too logical*. One morning while walking he comes across two convicts in chains. He cannot get out of his mind the idea that he too might be put into fetters. He has a sense of 'there, but for the grace of God, go I'. After all, he might commit a crime by accident, or become a victim of a miscarriage of justice. These thoughts end up driving him insane, and he is incarcerated; his prophecy fulfils itself. Seeing where his logical thoughts have brought him, however, his thoughts quickly degenerates into illogic, until he is coaxed back into the possibilities of logical discussion again by Dr Ragin. The exchanges between Gromov and Ragin exactly mirror the thoughts Gromov had about the two convicts. Gromov is obsessed by asking why he is in the position he is in and Gromov in the position he is in (or, previously, as it was, the convicts) and not the other way around. Thus the highly logical dialectical exchanges take place within the social context of an irreversibly asymmetrical power relation. This backdrop adds infinite pathos to the dialectical exchanges. Ragin is also, in his own way, *too logical*. Gromov tries to argue his way out of incarceration, but to his every thought Ragin has a rejoinder, with which he appears to tease Gromov. Yet in a way the dialectical exchanges merely symbolise a pale shadow of the concrete reality of the situation, to which they have no functional relation. There was never any possibility of Gromov arguing his way out of Ward 6, because it is a permanent dumping ground for society's malcontents.

The following passage exemplifies the decadence of logic... (my italics)

"The doctor has come!" he [Gromov] shouted, and broke into a laugh. "At last! Gentlemen, I congratulate you. The doctor is honouring us with a visit! Cursed reptile!" he shrieked, and stamped in a frenzy such as had never been seen in the ward before. "Kill the reptile! No, killing's too good. Drown him in the midden-pit!"

Andrey Yefimitch, hearing this, looked into the ward from the entry and asked gently: "What for?"

"What for?" shouted Ivan Dmitrich, going up to him with a menacing air and convulsively wrapping himself in his dressing-gown. "What for? Thief!" he said with a look of repulsion, moving his lips as though he would spit at him. "Quack! hangman!"

"Calm yourself," said Andrey Yefimitch, smiling guiltily. "I assure you I have never stolen anything; and as to the rest, most likely you greatly exaggerate. I see you are angry with me. Calm yourself, I beg, if you can, and tell me coolly what are you angry for?"

"What are you keeping me here for?"

"Because you are ill."

"Yes, I am ill. But you know dozens, hundreds of madmen are walking about in freedom because your ignorance is incapable of distinguishing them from the sane. Why am I and these poor wretches to be shut up here like scapegoats for all the rest? You, your assistant, the superintendent, and all your hospital

rabble, are immeasurably inferior to every one of us morally; why then are we shut up and you not? Where's the logic of it?"

"*Morality and logic don't come in, it all depends on chance.* If anyone is shut up he has to stay, and if anyone is not shut up he can walk about, that's all. *There is neither morality nor logic in my being a doctor and your being a mental patient, there is nothing but idle chance.*"

"That twaddle I don't understand. . ." Ivan Dmitritch brought out in a hollow voice, and he sat down on his bed.

Moiseika, whom Nikita did not venture to search in the presence of the doctor, laid out on his bed pieces of bread, bits of paper, and little bones, and, still shivering with cold, began rapidly in a singsong voice saying something in Yiddish. He most likely imagined that he had opened a shop.

"Let me out," said Ivan Dmitritch, and his voice quivered.

"I cannot."

"But why, why?"

"Because it is not in my power. Think, what use will it be to you if I do let you out? Go. The townspeople or the police will detain you or bring you back."

"Yes, yes, that's true," said Ivan Dmitritch, and he rubbed his forehead. "It's awful! But what am I to do, what?"¹⁰⁸

Kapp makes an interesting discussion concerning how modern logic has sought to exclude the structures of pedagogy and communication from its province, to the extent of denying they ever formed a part of it. He notes how Mill makes much ado over defining the realm of logic beyond mere syllogising (to include naming, classification etc) yet makes a curious exclusion, based on a mistaken understanding of the historical beginnings of logic. I will quote directly from Mill:

*'For to this ultimate end [the pursuit of truth], naming classification, definition, and all other operations over which logic has ever claimed jurisdiction, are essentially subsidiary. They may all be regarded as contrivances for enabling a person to know the truths which are needful to him, and to know them at the precise moment at which they are needful. Other purposes, indeed, are also served by these operations; for instance, that of imparting our knowledge to others. But, viewed with regard to this purpose, they have never been considered as within the province of the logician. The sole object of Logic is the guidance of one's own thoughts: the communication of those thoughts to others falls under the consideration of Rhetoric, in the large sense in which that art was conceived by the ancients; or of the still more extensive art of Education. Logic takes cognisance of our intellectual operations, only as they conduce to our own knowledge, and to our command over that knowledge for our own uses. If there were but one rational being in the universe, that being might be a perfect logician; and the science and art of logic would be the same for that one person as for the whole human race.'*¹⁰⁹ (my emphasis)

Kapp is quite clear that rhetoric was never conceived in that large sense by any of the main ancient authorities of logic, just as logical operations, when they serve the purpose of imparting our knowledge to others, have always been considered as within the domain of the logician. *'On the contrary, it is a fact that even in Aristotle's developed logic of the scientific syllogism and of the complementary induction both these main "operations of the human understanding" are almost exclusively considered as ways of teaching and learning'.*

¹⁰⁸ source: <http://www.eastoftheweb.com/short-stories/UBooks/WardNumb.shtml>

¹⁰⁹ Mill, pp 2-3

Kapp quotes from the beginning of the Posterior Analytics to prove his point:

*'All instruction given or received by way of argument proceeds from pre-existent knowledge. This becomes evident upon a survey of all the species of such instruction. The mathematical sciences and all other speculative disciplines are acquired in this way, and so are the two forms of dialectical reasoning, syllogistic and inductive; for each of these latter makes use of old knowledge to impart new [or do their teaching], the syllogism assuming an audience that accepts its premises, induction exhibiting the universal as implicit in the clearly known particular. Again, the persuasion exerted by rhetorical arguments is in principle the same, since they use either example, a kind of induction, or enthymeme, a kind of syllogism.'*¹¹⁰

Let the foregoing be a lesson that logic should not be allowed to blind us to its social context simply by cowing us with its symbolic standing. Logic is too widespread and prevalent a concept for it to be allowed to get away with this breath-taking delusion.

¹¹⁰ Kapp, P.86

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