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Personal Identity: Functionalism and the M-Relation

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MATT NUGENT

My aim in this paper is to reconcile what I consider the two most plausible theories for personal identity, by showing that Sydney Shoemaker's functionalist argument provides a relation among mental states that fits perfectly with John Perry's *M*-relation. By showing that Shoemaker's brain state transfer device would not be person-preserving, I show that it is also capable of placing restrictions that limit the functional states in Shoemaker's theory to a single body, thus reconciling completely his theory with Perry's.

The problem of personal identity arises from efforts to define the criteria necessary to establish a common identity between two spatial-temporally distant objects. Perry's theory of personal identity as found in *Identity, Personal Identity, and the Self* is an adaptation of H.P. Grice's view, which is itself a reformulation of and improvement upon the traditional Lockean memory theory. Grice's project is to discover the relation between sets of simultaneously occurring experiences of a single person, or total temporal states (t.t.s.), and in doing so account for the maintenance of a person's identity over time. Perry summarizes Grice's theory as follows:

> There is a sequence of t.t.s.'s (not necessarily in the order they occur in time and not excluding repetitions), the first of which is *A* and the last of which is *B*, such that each t.t.s. in the sequence either (i) contains, or would contain given certain conditions, a memory of an experience contained in the next or (ii) contains an experience of which the next contains a memory, or would contain a memory given certain conditions.
>
> (Perry 85)

Although Grice's formulation does account for the transitivity of identity,[1] a failure of Locke's theory generally thought to be damning, there exist three well known charges of circularity, all potentially fatal to the former's theory. The first charge suggests that Grice's reliance on veridical memory presupposes personhood. In the event that a t.t.s. contains an apparent memory of a past experience belonging to a previous t.t.s, there is nothing to ensure the accuracy or legitimacy of the memory; it could, for instance, be the work of a skilled hypnotist. However, if one asserts that the memory is veridical, then one is assuming that the t.t.s. containing the memory and the t.t.s. containing the remembered experience belong to the same person. The other two charges of circularity revolve around the claim that ª[each t.t.s. in the sequence either contains, or] would contain given certain conditions.º

First, suppose person *X* witnessed a mugging in West Philadelphia at two P.M., which we will call t.t.s. *A*. Later that night, person *X* fell into a dreamless sleep. It is safe to say that while *X* is sleeping but not dreaming, *X*'s sleeping t.t.s. contains little in the way of experiences, have no memories of past experiences, and have no experiences to be remembered in future t.t.s.'s. However, that t.t.s. can still belong to a longer chain because, according to Grice, they would contain memories if the conditions were different. For instance, if *X* was woken up and asked about the mugging, he would be able to describe it in vivid detail. But to make this claim is to say that given certain circumstances *X* would have had different t.t.s's while asleep than he would had he been awake. In doing so, Grice is evoking the notion of personhood by ascribing a common identity to both the sleeping person (to whom a relatively empty t.t.s belongs) and the person who was rudely awakened (to whom the t.t.s. containing a memory of the mugging would belong). Secondly, one can contend that ª[t].t.s. *A* would contain, *if the same person who has A* had been awakened and asked or if the same person who has *A* had not just taken a powerful drug or ¼ a memory of an experience contained in *B*º[2] (Perry 92). One would once again be invoking the concept of personal identity in their analysis and would therefore be proposing a circular argument.

In order to remedy these charges of circularity, Perry attempts to better define what is meant by memory. He outlines three conditions: one to be met at the time of the remembering, one to be met at the time of the experience to be remembered, and one that denotes what the link between the two t.t.s.'s must be (Perry 92-3). The conditions are as follows:

1: If A is identical with B, and B is identical with C, then A must be identical with C.

2: Here, `A' refers to the t.t.s. of a sleeping or unconscious person, and `B' refers to the t.t.s. of an awake and conscious person.

A[3] remembers *e* if and only if
(1) *A* represents the past occurrence of an event of type *E*;
(2) *B* witnessed *e*; and
(3) *B*'s witnessing of *e* is M-related to *A*'s representation of the past occurrence of an event of type *E*.
(4) *e* is of type *E*
(5) *A* believes (1)-(4)

Perry then defines the *M*-relation as that of recollection. This is defined:

A recollects *e* if and only if:
(1) *A* represents the past occurrence of an event of type *E*;
(2) *B* witnessed *e*, and *e* is of type *E*; and
(3) *B* and *A* are the same live human body.

(Perry 95-7)

Unaided recollection, i.e. recollection requiring only that t.t.s. *A* exists without the added impetus of some additional information, constitutes the *M*-relation that connects various t.t.s.'s across time. In Perry's formulation of the memory theory of personal identity, there are no claims of common personal identity between *A* and *B*, and the aforementioned claims of circularity are circumvented. The original Lockean memory theory is embedded in Perry's theory through his reliance on memory, but whereas Locke intended to produce a theory not at all reliant of any form of bodily identity, Perry does require a common body to be present across time.

Sydney Shoemaker in *Personal Identity* proposes a functionalist theory for personal identity that relies on the psychological connectedness of various person-stages. Two person-states (or t.t.s.'s) are said to be psychologically connected if one contains a mental state that ªstands in the appropriate relation of causal dependence to a state containedº in a previously occurring mental state. Two person-states can then be said to belong to the same person if and only if:

(I) they are connected by a series of stages such that each member of the series is directly connected, psychologically, to the immediately preceding member, and (II) no such series of states which connects them `branches' at any point, i.e., contains a member which is directly connected, psychologically, to two different stages occurring at the same time.

(Shoemaker 90)

3: In Perry's example, `*A*' is now referring to a live human body and not a t.t.s.

A mental state within these person-stages, according to the functionalist view, plays a functional role in that, in response to certain stimuli, it causes certain behaviors and other mental states, which can be beliefs, character traits, desires, habits, talents, memories, attitudes, and preferences. These other mental states are definable in terms of their place within a complex network of causally related states. For example, suppose a person hears specific notes of a song over the radio and, from that information, forms a belief that a song by his favorite band is being played. Furthermore, this belief causes him to be happy and dance. Within this example, certain auditory stimuli resulted in the formulation of two mental states; one being the belief that his favorite song was playing, the other being this person's happiness. The belief and happiness then caused the person to dance, i.e. the mental states created in response to the auditory stimuli were the middle steps in a causal chain that resulted in the behavioral output of dancing. Part of the functionalist view's appeal is in its ability to conform to both materialism and dualism, and, as will be shown later, it is compatible with Perry's view of personal identity, despite the fact that it does not explicitly state a physiological requirement for identity.

In order for a group of mental states to exhibit causal connectedness resulting in further mental states and behavioral outputs, it is necessary for the states to be co-personal; they are, therefore, illustrative of the synchronic unity between the elements of an individual's person-stage. The functional role of mental states also explains the diachronic unity of mental states and person-stages. For instance, whereas the auditory stimuli in the aforementioned example resulted in a belief, happiness, and dancing as immediate responses, a week later the person may be left with a memory of his happiness and dancing and a belief that seven days ago he heard his favorite song, all of which are mental states defined by their causal relations to previously occurring mental states. These causal relations explain the appropriate causal dependence various mental states must have across time in order to be part of two psychologically connected person-stages or for a series of person-stages to be psychologically continuous. Assuming there is no branching of person-stages, a person is that which is composed of the psychologically continuous person-stages.

Perry's and Shoemaker's views are reconcilable as functionalism would be an adequate formulation of Perry's *M*-relation, if we mandate that functional states be confined to a single physical embodiment. As Perry calls for *B*'s witnessing of e to be *M*-related to *A*'s representation of an event of type *E*, the stimuli presented while witnessing *e* might produce various mental states that causally lead to *B*'s future representation of an event of type *E*. For example, a person *A* may possess a memory of skiing at Killington three

years ago. This memory would be a representation of an event of a certain type. Person *B* may have skied at Killington three years ago, and would have thereby witnessed an event *e*. If *A*'s current representation was *M*-related to *B*'s having witnessed an event, and *A and B possess the same live human body*, then it could be said that *A* and *B* are the same person. Likewise, if *A*'s representation of an event of type *E* was appropriately caused by *B*'s witnessing of *e*, then *A*'s memory could be a mental state existing in a complex network of causally related states that began with *B*'s witnessing of *e*. The only difference between theories is that while Perry suggests *A* and *B* must have the same live human body in order for personal identity to be actualized, Shoemaker believes that only by mandating that *A* and *B* share a common body, or brain, can personal identity be realized in humans. He contends that functionalism provides a sufficient theory of personal identity abstract enough to account for personal identity in some species who are able to have psychologically connected person-stages, but not possess a brain. For Shoemaker, it is the ªfunctional account of mental states, and the associated psychological continuity account of personal identityº that portray the `real essence' of personal identity (Shoemaker 128).

Shoemaker proposes, in an attempt to better define his view of personal identity, the thought experiment of the brain-state-transfer device. The device exists in a world in which the inhabitants, which we will assume are exactly like us, must have their brain-states transferred to a different body that is exactly like their original every few years, (due to radiation that slowly damages their bodies). Their old bodies are then immediately destroyed upon completion of the transfer. They use the word `person' in exactly the same manner we do and both the pre and post-body-transfer possess the same legal rights and are considered by society to be identical. Shoemaker argues that this device, which we will assume works correctly every time, is person-preserving. He claims that ªthe physical realization of a mental state requires the existence of a physical `mechanism' whereby it stands, or is capable of standing, in the functionally appropriate causal relations to other metal states of the same personº (Shoemaker 110). Initially, this statement seems to condemn the use of the BST device as a person-preserving procedure, since the brain states are being duplicated in a different body and must exist, at some point, outside of both bodies. Therefore, it seems that there must be a time when the mental states of the pre-body-transfer patient are not realized in any body at all.

Shoemaker proposes that the BST device can itself constitute an adequate physical mechanism that allows for the realization of mental states, and therefore the continuation of appropriate causal relationships among mental states that constitute a person. I, however, take issue with this claim. First, it is necessary to consider what is meant when it is said that a mental state is `realized.' If a person is sitting at his desk and typing a paper, his concentration is most likely, or at least ideally, focused on the paper; memories of the 1996 Olympic Games, for example are most likely not at the forefront of his consciousness. Assuming the person possesses memories of the games but is not currently representing them in any way, I believe the mental states that constitute his memories are not being realized. My claim, which if correct will show Shoemaker's BST device is not person-preserving, is that the realization of mental states is achieved when a mental state is recognized as present by its possessor. For instance, the mental state of pleasure is not realized in a person immediately after that person breaks his arm because that person would not be feeling pleasure. Although he may know what it is like to feel pleasure, no causal process is realizing pleasure. Just as a physical mechanism is necessary to store mental states, i.e. latent memories or character traits not currently being exhibited, one is also necessary to realize them; however, this latter claim demands certain capabilities of the mechanism. For mental states to be realized within a mechanism, the mechanism must be able to recognize or reflect upon the mental states being recognized. In other words, the mechanism must possess self-awareness or consciousness.

The BST device, it is safe to assume, is not self-aware and possesses no knowledge of or unaided access to the mental states contained within it. Therefore, it would not be possible for the mechanism to recollect, unaided or not, a particular event or realize a particular mental state. Because there would be no continuity of consciousness, the mental states held within the BST device and the mental states posited in the cloned body would be copies of those found in the original body. These copies would not be properly causally connected to the stimuli beginning the causal chain of mental states or the causal chain of mental states itself because the copied mental states would, in essence, be reconstructions of mental states qualitatively identical to the originals, but not part of the same potentially continuous consciousness. Therefore, the BST device does not act as an adequate mechanism to physically realize mental states. If it is not possible to transfer mental states from one mechanism to another, then we must put constraints on Shoemaker's theory similar to those of Perry's; namely, we must restrict mental states to a single body, so long as we seek the preservation of the subject under consideration.

Both Perry's and Shoemaker's theories of personal identity possess great merit as non-dualistic theories of personal identity in their ability to avoid circularity and their conformance to naturalistic concepts of person-

al identity. However, Shoemaker's view is incomplete, as is demonstrated by its failure to achieve what Shoemaker claims it is capable of, i.e. not rely on any one physical mechanism for the realization of mental states. In order to reconcile Shoemaker's functionalist view with its actual capabilities, it is necessary to constrict the theory slightly in the addition of a further demand that functional states be realized in a common physical mechanism. However, it is important to note that Shoemaker's functionalist view relies on one physical mechanism for the realization of mental states *only if* the definition of `realization' proposed in this paper is accurate.Although Shoemaker claims that the brain and the central nervous system are the mechanism in which personal identity is recognized in humans, he believes functionalism is abstract enough to account for identity in some alien species not possessing either mechanism. Though this may be true, it in no way allows for the transfer of mental states from one body to another, or the existence of mental states outside of their original mechanism.

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(Re)Thinking Plato's Line: The Objects of Dianoia

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ROBERT KUBALA

The image of the Divided Line in Plato's *Republic*, along with the allegory of the Sun and the Cave, is among the most studied in his thought. John Sallis notes that drawing the distinction between visible and intelligible, as is done in the Line, ªcoincides with the *beginning of philosophy*º (Sallis 424). Yet the meaning of the imagery Plato uses has been widely debated. Two issues in particular have puzzled scholars, namely the interpretation of the objects that correspond to the level of *dianoia* and the significance of the equality of the Line's two middle segments. While there has been much work devoted to these subjects, the analyses remain somewhat inconclusive. It is my contention that an attempt to answer these questions by focusing too narrowly on the Line itself loses the sense of the whole and that a wider view of the Line is necessary to understand it fully. What this view reveals is that the equality of the middle segments is intended to be implicit, because it represents the end of dialectic and the beginning of personal knowledge of the intelligible. Before we look through this broader lens, however, it is useful to examine what analytical interpretations of the Line have taught us, where they remain unsatisfying, and how they may have erred.

The method for constructing the Line that Socrates suggests to Glaucon at the end of the Republic's Book VI (509d) is familiar, and can be summarized as follows: the relation between the visible and the intelligible is like a line divided and then subdivided in the same ratio, such that it consists of four distinct segments, which can be called AB, BC, CD, and DE, moving from the highest (the largest) to the lowest (the smallest).[1] Socrates postulates four conditions in the soul that correspond to each line segment: understanding, thought, belief, and imaging, respectively. These mental states are separated vertically from their objects, which are placed on the other side of the line (*Rep* 511d-e). The objects corresponding to the AC segment are knowable and intelligible, while the objects attributed to the CE segment are visible and openable. The objects of DE, the lowest segment, are visible images of visible things, ªfirst, shadows, then reflections in water . . . and everything of that sort.º The objects of CD are the visible originals of those images, animals, plants, and ªthe whole class of manufactured thingsº (*Rep* 509d-e). The highest subsection, AB, is clearly intended to represent the Forms, but the segment below, BC, is trickier. The text that describes the division of the intelligible section (AC) reads as follows:

> In one subsection, the soul, using as images the things that were imitated before, is forced to investigate from hypotheses, proceeding *not* to a first principle but to a conclusion. In the other subsection, however, it makes its way to a first principle that is not a hypothesis, proceeding from a hypothesis but without the images used in the previous subsection, using forms themselves and making its investigation through them.
>
> (*Rep* 510b. emphasis original)

A critical concern is that the objects of BC, namely of *dianoia*, are somehow images, despite being formally denoted as knowables. Nicholas Smith helpfully catalogues the variety of suggestions for these objects, which include mental images of Forms, mathematical objects, mathematical realities, sciences, mathematical intermediates, figures, and even ªvisible originals, repeated from the subsection (CD) beneath this one (BC)º (Smith 32). The last view, advocated by Paul Pritchard in his monograph *Plato s Philosophy of Mathematics*, is based upon the equality of the middle segments, a characteristic of the Line that arises independently of the ratio in which the Line is divided. Pritchard interprets this feature to mean that the objects of BC are the same as those of CD, although now used as images of something else (Pritchard 92). He usefully points out that ªthough the states of mind in the Line are four, the ontology is only threefold, just as it is in book Xº (Pritchard 94). This threefold pattern does recur throughout Plato's works; in addition to the three beds in the *Republic*, the events of the *Symposium* are also at a third remove from the original event, recounted by Aristodemus to Apollodorus, who then retells the story to an unnamed companion.

But, as Nicholas Smith notes, the objects of BC ªare not the proper

1: Nicholas D. Smith in his article ªPlato's Divided Lineº explains why the line must be oriented vertically and why the top segment must be the largest. I consider this to be accepted by the majority of interpreters and thus presume the construction without further explanation.

objects of mathematical study, but only the images such study requires" (Smith 39). Mathematicians obviously have to use some visible forms as images, for example in drawing a triangle or square to illustrate a geometric theorem. The important thing is that the objects are recognized as images of the true triangle or the true square. The objects of BC are therefore the same as those in CD; in the latter, they were thought to be visible originals at the commonsense level, but in the former, they are recognized as intelligible images at the level of thinking. An important transition has occurred here, and Smith interprets it as analogous to leaving the Cave, in which there are also four stages (Smith 38).

It seems evident to me that the objects of BC must be images of some sort, especially because of the aforementioned etymology of the word *dianoia*. Interestingly, Smith notes that only a few other scholars agree; he lists four or five (Smith 40; See also n. 21 on pp. 32-33). With Smith's particular view, however, the objects of BC are not exactly the same as those of CD, as Pritchard claims, but are only the same sorts of objects, "at the same `remove' from the reality of Forms" (Smith 38-39). Thus the identity of the objects is not as relevant as the way in which they are considered. Unfortunately, this leads Smith into a problem. Since each level of the line must correspond to a class of objects and a mental state clearer than the level below it, the objects of CD cannot be the same sorts of objects as those of BC. Rather than proposing an alternative interpretation, Smith suggests ignoring the equality of the middle segments. He goes on to suggest that "Plato might have purposefully woven this subtle flaw into the intricate fabric of his own image, because he wished to avoid the sin of perfection" (Smith 42-43). While imaginative to be sure, this interpretation is most likely unfounded, as Plato's dialogues are on the whole exquisitely crafted and quite possibly perfect.

What I shall adopt from the views of Smith and Pritchard, in addition to their refutation of the postulation of a class of mathematical intermediates, is their understanding of dialectic as corresponding to segment AB. This view is already found in the *Republic* itself, in the middle of Book VII. Dialectic is described as the journey of argument to "find the being itself of each thing" apart from sense perceptions (*Rep* 532a-b), moving away from hypotheses and towards the first principle itself (*Rep* 533d). This illustrates Plato's idea that truth is only found within dialectic, within a contextual framework such as the dialogues themselves.

Before we move past analytical readings of Plato, however, let us consider one more, that of M. F. Burnyeat in his article "Plato on Why Mathematics is Good for the Soul." Although he suggests that the Divided Line introduces "a new intermediate epistemic state" (Burnyeat 42) at BC, Burnyeat places a distinct emphasis on Socrates' statement at 534a, that "as for the ratios between the things these are set over and the division of either the openable or the intelligible section into two, let's pass them by, Glaucon, lest they involve us in arguments many times longer than the ones we've already gone through." This sudden change of subject occurs several other times in the *Republic*, most notably at 533a, when Socrates says that Glaucon "won't be able to follow [him] any longer" right when Glaucon would be seeing "the truth itself" rather than its image, in the discussion of dialectic. Rather than use this statement to discount any debate about ratios (particularly the equality of the middle sections), I would argue that its context suggests otherwise, namely that the equality of those segments constitutes the division of knowledge into that attainable through dialectic and that attainable only through introspection.

John Sallis, in his book *Being and Logos*, provides an important justification for my interpretation. For Sallis, *dianoia* is "a distinguishing and relating of ones," as in counting, which is "the basis of Greek mathematics" (Sallis 432). This explains why *dianoia* is so often linked exclusively, and often equated, with mathematical thought. In order to understand it, one must recognize the distinction Sallis draws between upward-moving and downward-moving *dianoia*. The downward-moving *dianoia* is that of the warrior-guardian described elsewhere in *The Republic*, turned toward the visible side of the line and "concerned with ordering and measuring things in this domain" (Sallis 434). The upward-moving *dianoia* is that of the philosopher, turned away from the visible. This distinction also explains why the objects of the Line (and especially those of BC) are so often misunderstood; the division is not of different objects but of "four different levels of participation of things in truth" (Sallis 417). This is also the reason why Socrates only gives examples of objects rather than naming them as a group (Sallis 417).

The context of Socrates' belittling of Glaucon at 533a, for Sallis, is that dialectic is seen only from the perspective of upward-moving *dianoia*, not through the perspective of *episteme* to which it corresponds (Sallis 441). This is because dialectic is analogous to upward-moving *dianoia*, as they both struggle to grasp "each thing itself that is" (*Rep* 532a). Thus, the highest segment of the Line is never discussed further. I infer that this is the reason for Socrates' choice to pass over a discussion of ratios and further division of the Line; he and Glaucon must make use of upward-moving *dianoia* to turn away from the visible and to the intelligible. It is not that the dialectic is unimportant, because the dialogue continues for three more books, but

rather that, after putting so much of the discussion of the Good into images (the Sun, the Line, and the Cave) it is time to move on from them. It is also time for us to move forward from the discussion of images and to seek the intelligible.

Sallis argues that the Line's middle segments cannot be equal in length. He notes that this equality is, for one thing, never explicitly stated (Sallis 415), which is exactly what Smith says about the ªspatial comparisonº between the Line and the Cave (Smith 28). In the context of upward-moving *dianoia*, Sallis says that the middle segments ªcould be equal only for one who remained stuck at the level of downward-moving *dianoia*,º and that we should instead move away from the visible (Sallis 440). The guardian at the level of downward-moving *dianoia* would not recognize the conflict between the ratio and Socrates' insistence that the lengths of the segments correlate with their degree of clarity and truth. Thus, Sallis claims that we should move ªtowards what shows itself through the lineº (Sallis 440), to the intelligible.

I contend, however, that the equality of the middle segments, as it shows itself through the Line, fosters that move to the intelligible much more than any understanding of the particulars of *dianoia* does, because attending to the equality of the middle segments allows for reflection upon the mathematical theorem that is revealed. In this I am aided by Robert Wood, who explains in his book *Placing Aesthetics*:

> When you are able to demonstrate that [the theorem that the central portions of a line so divided will always be equal] and reflect on what you have accomplished, you become aware of a basic distinction in experience between the particular visual object, drawn on paper and seen in the light by the eye, and the theorem, which is understood and demonstrated to apply to all lines constructed in the manner suggested: it is understood by the intellect ªin the light of the Good.º
>
> (Wood 45 emphasis original)

The theorem inherent in the Line has the additional property of appearing suddenly, as anyone who has had experience with inductive reasoning can attest. One can draw the line with a certain ratio (such as 3:1), perceive the equality of the middle segments, then draw another line with a different ratio (such as 4:1), and continue to change the ratio until at some point one recognizes that the middle segments will *always* be equal. This perception of a truth about the world, acquired through images, arises only out of inductive thinking, which I claim is at the level of upward-moving *dianoia*. Deductive reasoning, the logically formulated method of proof based on agreed-upon statements, is at the level of downward-moving *dianoia* and can only take us so far. Logical proof is certainly necessary for the development of mathematics, but no mathematician can formulate a proof without having the end in mind already. The understanding of the theorem that is being proved has to be acquired previously. This is also why the Line moves beyond mathematics to the Forms themselves.

As such, mathematical understanding as exemplified by upward-moving *dianoia* is quite important. The reflection at BC leads to *episteme* at AB, or ªphilosophic insightº (Wood 46). Wood's interpretation, especially when supported by Sallis, has the decided advantage of simplicity. The distinctions between the four segments are drawn in Plato's original text, and Wood only infers an aspect of the Line, the equality of the middle segments, that surely would have been noticed by any Greek mathematician.[2]

Another problem that my interpretation resolves is that of unity. Smith's view that the Line contains a flaw in its very construction contradicts the whole premise of the *Republic*, which is that harmony and proportion are valued because they lead to the Good. Justice, as it appears in the city and the soul, is predicated on the harmonization of the individual parts. Proportion is thus similarly important in the Line, which also leads to the Good. As Burnyeat also points out, unity is the first principle of number (Burnyeat 75), again justifying the content and place of *dianoia*. The combination of different line segments, or units, will sum to a line segment equal to the total length of the various parts; this is perhaps the origin of Plato's need to understand the parts before understanding the whole, and it is why I have elaborated upon each section of the Line before looking to the whole.

The question is now what it means to have a mathematical theorem implied by the construction of the Line. Ian Hacking, in discussing the *Meno*, notes that ªwhat impressed Plato . . . is that by talk, gesticulation, and reflection, we can find something out, and see why what we have found out is trueº (Hacking 94). The theorem and its content are not as important as the discovery of the theorem in general. Finding it is moving from BC to AB in the line - moving upward to dialectic. As Socrates says, ªwhenever someone tries through argument and apart from all sense perceptions to find the being itself of each thing . . . he reaches the end of the intelligibleº (*Rep* 532a). Like a proof in Euclid's *Elements*, the mathematician is able to abstract from sense perceptions. This transcendence of context is why the notion of making theorems is the central insight of the Line, and thus also why the middle segments must be equal.

2: Wood's interpretation also resolves the issue of circularity raised by Lynne Ballew in her book *Straight and Circular: A Study of Imagery in Greek Philosophy*, which is unfortunately outside the scope of this paper.

Although understanding the theorem transcends context, it must be expressed through images. Illustrating the theorem to another person requires an image of the particular, just as expressing an idea to another person requires a particular use of language. Even though we personally might be able to understand truth, we can only express it through language. Although the Line marks the beginning of philosophy by drawing the distinction between the visible and the intelligible, it only shows us what that distinction is *like*. The real problem lies with language in general, which cannot ever fully express truth. In Book II of the *Republic*, Socrates distinguishes true falsehoods from falsehoods in words, the former meaning the common notion of a lie and the latter referring to the nature of words as never being what they represent. The word ªdogº is not a dog. Yet a more prominent problem is that, even apart from considerations of language, the Line itself can only take us so far, because in Plato truth always appears *suddenly*.

The Line presents a step-by-step pathway to reaching the Good, just as Socrates provides a rigorous process for the education and training of the guardians. The final apprehension of truth, however, does not come through this gradual path, but, after its completion, ªis suddenly generated in the soul like a torchlight kindled by a leaping flameº (*Seventh Letter* 341d).[3] The sudden appearance of truth is also present in the *Symposium*, in Diotima's speech about love. She tells Socrates (who then relates it to the party guests) that ªthe person who has been instructed thus far about the activities of Love, who studies beautiful things correctly and in their proper order, and who then comes to the final stage of the activities of love, will suddenly see something astonishing that is beautiful in its natureº (*Symposium* 210e). This is precisely how one would apprehend the Good: through careful education, the cultivation of harmony and virtue in the soul, and the stages of the Line. Only after all this does the revelation of beauty, or truth, suddenly appear. In the same way, the apprehension of a mathematical theorem involves this sudden flash of insight into truth.

An important aspect of the Line, however, is the notion of giving an account of what one has understood. Plato's allegorical figure descends back into the Cave, compelled to share his knowledge with those ªwho have never seen justice itselfº (*Rep* 517e). The philosophical project depends on this sharing of ideas, this attempt to express one's own understanding, because truth arises out of dialectic and dialogue with others. Although knowledge of the Forms (philosophic knowledge) cannot be articulated ªin the public language of written and spoken symbols,º it can be expressed by ªan internal logos structured by an awareness of the Forms themselvesº (Sayre 192).

Under this interpretation, the role of the objects of *dianoia* becomes even clearer. As Sallis has pointed out, upward-moving *dianoia* at line segment BC leads us to the objects of AB, the Forms themselves. The Line, therefore, is what helps to create this awareness of the Forms. I would like to expand upon one of Sayre's points, however. Even though direct knowledge of the Forms may not be able to be articulated through language, Socrates' attempt to demonstrate what they are like is enough for the philosopher to accomplish. Otherwise, the purpose of images and metaphors in Plato's dialectic would be unclear. Sayre's point that ªphilosophic knowledge cannot be expressed in the form of theoriesº (Sayre 193) is well taken nonetheless. This is why, as has often been noted, Plato wrote in dialogues, in which truth is contextualized.

Plato himself also follows the prescription that he gives for philosophers. Paul Friedl□nder writes that ªto lead to a vision of the *Idea* and a hint of the highest good is Plato's taskº (Friedl□nder 64). The word *hint* is telling, because it encapsulates everything that I have been discussing. Language and discourse, useful as they are, can only give us a glimpse of the Good, and we can only move so far through the Line, which is, after all, only an image. Even Plato requires dialectic in order to be understood, which is why philosophy classes discuss his works and scholars endlessly debate interpretations. What the implicit dialectic of this paper has shown, through engaging these scholars, is that the equality of the middle segments allows us to understand a mathematical theorem, the very positioning of which helps us to grasp the relation between dialectic and personal knowledge. Yet our own instantaneous realization of the theorem, appearing as suddenly as it does, marks also the ªend of the roadº for dialectic in favor of introspection. Reflecting about that, we can move past images to a higher knowledge of the intelligible.

With the *Republic*, Plato created a dialectical masterpiece in which every word is important to understanding the whole. Through his use of images in the dialogue, he is able to explain and justify why we can only express truth through contextualized images and language; he uses words and images to tell us why words and images are inadequate. Yet our own personal introspection makes us able to understand, at least up to a point, what Plato is trying to express. This is the genius of the Divided Line and the dialogue as a whole.

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3: Although the authenticity of the letter has been questioned, most recent scholarship has favored acceptance of the letter into the Platonic corpus.

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ἀρχή

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An Interview with Dr. Jakko Hintikka

DR. JAAKKO HINTIKKA was born on January 12, 1929, in Vantaa, Finland. He received his Ph.D. in Philosophy from the University of Helinski in 1956. Since then, he has revolutionized the field of philosophy of logic, and is recognized as one of the creators of game-theory semantics. He has written over 30 books and contributed to innumerable periodicals. Most recently, he has completed valuable work in the logical analysis of modal concepts. He currently teaches at Boston University.

ARCHÉ : JOURNAL OF UNDERGRADUATE PHILOSOPHY AT BOSTON UNIVERSITY

IN APRIL 2007 **ARCHÉ** EDITOR DAN RYAN SAT DOWN WITH DR. HINTIKKA TO DISCUSS THE RENOWNED SCHOLAR'S LIFE, WORK, AND PROJECTIONS FOR THE FUTURE OF ANALYTIC PHILOSOPHY.

When did you first become interested in philosophy?

JH: Very early in my life. I was interested in all sorts of different things already in high school, and philosophy was one of them. That's when I got my first impulses in philosophy and philosophical thinking; but, largely under the influence of the famous philosopher Eino Kaila. He was a charismatic figure and very influential in Finland in those days.

When did you decide to enter academic philosophy?

That's a good question, because I don't think it was really a decision. I studied mathematics and philosophy at the University of Helsinki side by side. My dissertation was still technically in mathematics. But, slowly I realized that my talents were better suited for philosophy than for mathematics. For mathematicsÐto be a topped-ranked mathematicianÐyou need certain talents in a very, very high degree; either combinatorial or geometric intuition, or some combination of those. Even though I am not bad at mathematics, I did not have those two talents to that high of a degree.

What advice would you give to a student who is considering enrolling in a Ph.D. Program, or has just started their studies in one?

That's a hard one. I don't know. Partly, it's a question of where I think philosophy is going, and I think you'll be asking me about that separately. My personal advice would be to dig into one important problem-complex and really, really get into the cutting-edge questions about some part of philosophy, and then try to broaden yourself from that. The most important thing is to learn to argue and research on some particular topic in philosophy. If you go deep enough, that will lead you to the other parts of philosophy. So, that's one thing I would say to a beginning philosopher.

What would you say your biggest contribution to philosophy has been ... so far?

I don't like `so far'. First, I don't know the answer to your question, because of the nature of my contributions. I would have to change the question a little bit in order to answer it. My best ideas have been somewhatÐI wouldn't say technicalÐbut they've been specific results in logic or epistemology, whose philosophical significance remains to be worked out by myself or by others. And, what makes this difficult to answer is that I don't know how far that process has gone in different ways, because it doesn't depend on me. But, to be more specific, I have contributed several things to the ideas of game theory and the independence of logic. Before that, I contributed to epistemic logic, possible world semantics and so on. So, presumably those are considered as my most important contributions, `so far'.

Why should we study logic beyond the rudimentary level? In other words, why should we go beyond first-order logic?

Because the rudimentary level is too rudimentaryÐit doesn't tell the whole story. Maybe you don't have to go beyond certain basic areas in logic. Perhaps something fairly basic will suffice for most philosophical purposes. But the present logic as it stands now doesn't serve that purpose yet. So in the present situation, you'd better go beyond what the introductory text books in logic say. Take just one example: if you go by the rules of logic that are taught in a typical introductory or intermediate logic classes, you are told that you cannot define truth for logical languages in the same language This would be tremendously important in terms of its philosophical implications, if that were the last and final word. It turns out that this is not the case. If you enrich and deepen your basic logicÐand I mean basic logicÐtruth becomes definable, which has enormously important consequences for philosophy in general.

You ve obviously witnessed a huge change in the relationship between philosophy and science. What do you think the relationship is today?

By and large, but there are exceptions, I feel that the close links that existed maybe one hundred years ago have been loosened up, and what philosophers are doing is no longer considered relevant to what is actually going on in the sciences and mathematics. One hundred years ago, the leading mathematicians were intensely interested in what was happening in philosophy of mathematics, because this was felt to be of tremendous immediate importance to their subject. These days, most of what is written under the heading of philosophy of mathematics, mathematicians couldn't care less about. In some

other areas the situation is better. In the philosophy of science, there are some philosopher-scientists who are much better at combining the two fields. But, even there, I would like to see more close connections. I suspect, although it's not my field, that the same thing could maybe be said about philosophy and economics. There used to be a tremendously interesting tradition, specifically in Cambridge, England, of actual cooperation and coexistence of cutting-edge economics and philosophyÐKeynes, Frank Ramsey, and Marshall before them. There isn't anything quite as impressive as that in contemporary philosophy. So, I think that the connection has been lost to a great extent.

In your work, what are normal forms ?

Normal forms are just simplified forms of logical formulas. The interesting question is what the interpretation of them is. Normal forms can actually be viewed in different ways. They may be viewed simply as possible chronicles as to what happened if you started examining possible worlds. Another interpretation of normal forms might be that they mark the dimensions of logical space. So, their technical explanation is simply formal and boring and incomprehensible. But, then the interest is due to the interpretations, of which there is no single one. So there is no single explanation of what the normal forms, so to speak, `are'.

But you subscribe to the first reading?

My sort of tacit interpretation, in my own mind, is that normal forms precede technical work; that there has to be an intuitive understanding of what the normal forms are before you can even hope to understand the formal technique. So, these are purely formal. From dire necessity you have to say what you mean, but you cannot really get very far in the applications unless you have an understanding of what these mean substantially, intuitively.

I know you ve written about and studied Wittgenstein extensively. What are language games or primary language games ?

Well, I think the answer is this. How is language connected with reality? There are different answers, but I think the only viable answer is that we humans have to do something to keep these connections going, through certain human activities, or sort of mini institutions. And these mini institutions are simply labeled language games. The game analogy is just an analogy, and maybe a misleading one. But, the basic idea is that the semantic relationships between language and reality are constituted by certain kinds of human activities, or governed by certain human activities. This is actually how Wittgenstein came to first think of language games.

Is analytic philosophy dead? Clearly its alive and well as an entrenched academic school, but is it dead as a project?

Is philosophy in general dead as a project? I think you have the same difficulty answering that. Let me give my take on the history of analytic philosophy, or at least some of its main trends. Most people still think of the present situation in analytic philosophy as a finally getting over the restricting influence of logical positivism. That's simply historically wrong, I think. What we are experiencing now is the tail-end of the reaction against logical positivism within analytic philosophyÐfor critics like Quine, Popper, and Kuhn, it is the tail-end of their influence. This leaves analytic philosophy as a tradition that started from logical positivism, or logical empiricism, as I would prefer to call it. What did logical positivists promise, so to speak? They promised to solve all the problems on the foundations of science and foundations of mathematics by the logical analysis of language. Did they do that? No, they didn't succeed, and I think that is the ultimate philosophical reason why the influence of logical positivists has waned. But, as a thought experiment, as a fantasy, imagine what would have happened if the logical positivists had solved those problemsÐif they had solved the interpretational problems of quantum theory, if they had cleared up the problems that were left by the incompleteness results of G□del and Tarski and all of those people. What would have happened if they had succeeded? I think I can tell you: we would all be logical positivists. So, the question about the future of analytic philosophy, I think, is whether we can make real progress in those areas focused on by the logical positivists. They made some progress, they cleared up a number of things, but I think the ultimate question is whether analytic philosophers can fulfill the promise of the logical positivists. I'm an optimist in that regard, and perhaps that puts me in a very small minority, but that's what I think.

What do you think is the most important work of 20th century philosophy?

Well, I'll answer that, but first I'll make a comment on it by telling a story about the meeting of the Aristotelian Society. J.L. Austin first gave a paper called ªA Plea for Excuses.º It was criticized at great length for the trivial-

ity of the whole enterprise of ordinary philosophy and finally, when one critic stopped, Austin took the pipe out of his mouth and said, ªWell now, sometimes importance isn't quite that important.º So I would say that all kinds of importance are very important. I can think of the most influential philosophers, but that's a different question and that's for the historians to answer. I would like to ask, where do we find the ideas for the future? What results will matter in the future? I think the most important work in that regard is simply the work that is meant to raise the level of explicitness and rigor in philosophical enterprises: the development of logic, philosophical logic, and the development of modal theory. These are the most important works for future work in philosophy. Of course, I don't think there is any doubt that Wittgenstein's work contains extremely promising ideas and displays a very high level of conceptual awareness; however, I think that Wittgenstein's philosophy has generally been misunderstood, and the ideas that are there are not the ones that have typically caught philosophers' attention. I think that Wittgenstein's ideas ought to be developed a lot further independently. Of course, Wittgenstein is certainly one of the most influential and rightly influential philosophers. The importance, I don't know.

Maybe this would indirectly answer your question, if I tell who I think was the most gifted philosopher of the 20th century. I don't think you would guess it. I think the most gifted philosopher of the 20th century was Frank Ramsey, because he died when he was not even thirty, so he didn't have the time to achieve so much success. I think he had the best understanding of the thinkers of his time on the foundations of mathematics. He was instrumental in creating contemporary decision theory. He had brilliant ideas in epistemology. I think he was the most gifted philosopher of the 20th century, by a long shot.

On that note, who should be read that is not typically included in the undergraduate curriculum?

Well, just a moment. There are many philosophers who should be known better.

If you have to pick one.

Well, Ramsey has attracted a fair amount of attention. But, of course, he did not have time to accomplish all that much. I cannot say that he has been neglected. The current run of the mill work in philosophy is a comparison of different philosophers, so I think that most philosophers have got their fair share of attention. Of course, there may be philosophers in other countries and different philosophical traditions that might deserve a little more attention, but I do not think that there is anybody who has been clearly neglected. Misunderstood, yes; but not neglected. But if I had to give one answer, it would be Ramsey, in spite of the attention that he is now getting.

Is there a philosopher or book that would surprise readers to learn that you admire?

I don't think there is a *philosophical* book, and my interests are public. Though not everybody realizes how deeply I am interested in, say, Aristotle's Metaphysics, but that's still public knowledge. If there's a book that people wouldn't realize that I have been impressed by, it would probably not be a philosophy book. It would probably be Erich Auerbach's work on literary theory. Auerbach was a very interesting literary historian. He had to flee Germany in the 30's because of the Nazis, but he didn't make it to the United States. He ended up in Turkey without any extensive library of facilities. His great plan was to write the history of representation or realityÐrealismÐin Western literature. What he ended up doing, instead of writing a systematic history in the usual fashion, is he wrote his book by taking samples from the Western literature, literally from Homer and the Bible to Virginia Woolf. Everything he says is analyzed out of these brief passages, and of course using all the background knowledge he had, but it's all related to what you can find in these passages in the literature. The book, and particularly the method, impressed me very much. I don't think you can find influences in my writings; but this has been in my mind since I first came upon it more than fifty years ago.

What do you think the basis is for the so-called analytic-continental divide ?

I don't think there such a clear divide or that there should be. That's very artificial and I think we should get rid of it. As I usually say when somebody uses the term, I always thought that Vienna was on the continent too. Also, historically, if you look at what happened in the 20th century, there is much more interplay between the allegedly different traditions, and there are many more differences between the thinkers in any one school than people are aware of. Let me give you a concrete example. A long time ago, I once heard somebody criticizing Husserl for essentially plagiarizing the

whole idea of phenomenology from Ernst Mach, the arch-positivist. I dismissed it, thinking there are all sorts of conspiracy theories in the history of philosophy, until I realized that the writer had perhaps seen something that wasn't then in the public domain. I came upon Husserl's own explanation of phenomenology, and there he says that his phenomenology is a continuation and radicalization of certain ideas in the philosophy of science represented by Mach. Husserl adds that that's where he got the term phenomenology, too. So what do you make of that? This is Husserl's own explanation, so we have to take this connection between the two traditions much more seriously. I think what really have had is that history has not had enough dialogue between the two traditions. But, that is superficial relative to the contrasts between the different thinkers in the allegedly same traditions, which are sometimes extremely sharp. Not everybody is aware of how contemptuous Heidegger was of Husserl. At the very early stages of his thinking, he had not only not admiration, but positively contempt for Husserl as a philosopher. `Husserl has never been a real philosopher for a single moment of his life,' `He's getting more and more ridiculous.' I think that the differences between the separate traditions are sometimes much, much smaller than those within the individual traditions. Of course, analytic vs. continental is an easy way of making up a division of labor, but I would like to get rid of the whole contrast altogether, and instead emphasize the shared problems and shared concerns.

In 150 years, will there still be philosophy departments in universities?

I don't know; I don't run a university. It depends on what philosophers do. I think their self-imposed job description will have to change somewhat, to keep philosophy departments as formal entities. I think what philosophers ought to concentrate on is the teaching of, on the level of undergraduate education, reasoning and argumentation, critical thinking. That is the most important education mission of philosophy, but research philosophers have neglected that whole area. The theory of reasoning and argumentation is not fashionable among philosophers doing research. Let me illustrate this. What is taught in logic classes, for instance, is called `rules of inference.' What are the rules of inference? If you have 20 premises, and you ask yourself or someone else, `what shall I do?' do the rules of inference help you to decide? No. They don't tell you what inferences you should draw, what inferences people usually draw, what they necessarily draw, or even what they ought to draw. The so-called rules of inference are merely permissive. They only tell you which inferences you may draw without committing a fallacy. Of course you need to know these `definatory' rules, I call them, before you can do logic; but that's only the first step. You should have what I call strategic rules, which tell you what the good inferences are. These strategic rules play very little role in teaching argumentation and critical thinking. So, I think that philosophers ought to devote not just their teaching time (which they usually relegate to the junior faculty and teaching assistants) to argumentation, but they should develop a really substantial theory that serves as a basis for teaching better thinking. So, this would be the focus of philosophers, just to keep their departments earning their keep.

The second task would be work in the history of philosophy, which should be given a slightly different direction. Currently, philosophers use the history of philosophy to debate contemporary problems. They think of the problem of induction by talking about Hume. But the history of philosophy would be more relevant to general education if it concentrated more on the general history of ideas and the development of ways of thinking, rather than the particular perennial philosophical issues that are debated very often under the guise of history of philosophy. If philosophy departments serve these two purposes well, they'll have plenty of justification for existence even apart from the so-called philosophical research they undertake.

Where will philosophy go in the next fifty years?

One of my favorite quotes is from a jazz musician who, when asked, ªWhere is jazz going?º responded, ªMan, if I knew that, I would be there already.º In a way, my answer will be different. I have my own idea of where philosophy ought to be going, which I have directly and indirectly indicated to you already. But, where philosophy will go, I don't have any ideaÐthat depends on so many contingent factors. We should go back to the basic epistemological and logical questions, and take on those first, while at the same time taking care of the educational function of philosophy. That's what philosophers ought to be doing, but whether they will do that, I don't know.

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