

# *Imagination: Process and Possibility*

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*Sometimes, I wish I could fly.  
You can, if you make wings from paper, color them,  
put them on carefully.  
I just wish I pretend I would fly.*

—Amy Hogue, age 8<sup>1</sup>

**H**enry David Thoreau once said: The question is not what you look at, but what do you see? The question is not so much what the various objects, people, and events are that exist in our environment, or how their existence impinges on our sensory surfaces, but rather it is how they are perceived by the individual. A central thesis of this paper is that imagination has a crucial role in all aspects of our cognitive life including how we perceive and interact with our environment. Mark Johnson has put the point aptly as follows: “imagination is central to human meaning and rationality for the simple reason that what we can experience and cognize as meaningful, and how we can reason about it, are both dependent upon structures of imagination that make our experience what it is.”<sup>2</sup> This raises many specific questions, such as the following: Exactly what role does imagination have in our perception and perceptual knowledge? Just how are we to understand the concept of imagination? Is it just a matter of having an image, or some discursive thought, or does it involve some-

thing more, like constructing new possibilities? It would seem reasonable to assume that imagination is not just a capacity to form images: rather, it should be seen as a much broader cognitive capacity involving many functions and skills. Further what influences and constraints, positive or negative, are placed on imagination by society and education?

Throughout history, philosophers and psychologists have addressed the issue of imagination, alluding to it as either an obstacle to knowledge or an element of one’s mental ability that empowers knowledge. This paper has two related aims, first, I want to trace the evolution of the concept of imagination in Western thought, in particular in Plato and Aristotle through Kant, with a particular focus on the latter since I believe Kant provides a useful framework in which we can reflect on some of the questions raised above. Second, I want to explore why the development of imagination is especially crucial for deaf children’s ability to think and reason reflectively and philosophically, an ability which enables these children to better cope with the moral and social problems they are likely to face in their lives. My claim will be, first, that imagining alternative possibilities is necessary for the very ability to make judgments. Second, I have a more specific thesis, namely, that imagination involves the construction of various prototypical concepts, extrapolated and abstracted from experience, and extension of these concepts by further imaginative acts; how imagination can be fostered in deaf children by the use of the Philosophy For Children Program, and that the two

central logical operations on concepts that the deaf children must master and make use of for this purpose are those of addition and negation (or subtraction).

### IMAGINATION IN PLATO, ARISTOTLE, AND HUME

Typically, the view held by most people is that imagination involves such things as novelty, fantasy, and creativity, but that it has no serious role in our ability to understand and reason. Images and metaphorical projections are often seen as lying outside the domain of reason and thus inimical to one's ability for rational thinking. This conventional view isn't very far from Plato's doctrine: the Platonic tradition regarded imagination with deep suspicions. It is clear from the Metaphor of the Divided Line in the *Republic*<sup>3</sup> that Plato placed the highest value on reason and truth, disparaging imagination as the source of nothing but false copies of real things. Imagination, then, only mimics the appearances of things and creates images that deceive us. He claimed that the painter, who makes an image of something (say, an apple) is twice removed from reality, that is, a copy of a copy (since the apple itself is a copy of the Form of apple). Since Plato saw imagination as issuing from the lower aspects of our mind and not its higher level, where genuine knowledge emerges, art could never teach a person the distinction between what was real and what was only imaginary; on the contrary, imagination causes us to confuse reality with fantasy, distracting us from the search for true knowledge. Not only was imagination deemed to be constituted by inferior imitations but in addition it was blamed for igniting and inflaming the passions of humans; far from being a rational faculty, it is something possessed of a demonic force. The crux of the Platonic argument was the claim that true knowledge, that is, knowledge of Ideas or the essences of things, cannot be derived from our experience of sensible things in the world, much less from the images of these things. For hundreds of years, philosophers have taken imagination to have a primarily aesthetic function, having little to do with our rational and cognitive faculties.

Aristotle, however, argued against Plato's views, claiming: "Every time one thinks, one must at the same time contemplate some image."<sup>4</sup> According to him, "phantasma" plays an essential role in the process of thinking: he held that mental images connected one's perceptual impressions with one's reason. One interpretive difficulty is that the Greek word "phantasma" does not directly translate into "image" or "imagination" but seems to

have a more general sense of "appearance" or "how things appear". Aristotle regards imagination as a faculty that intervenes between sensation and thought. Thus, imagination derives its content from the former and makes the latter (rational thought) possible.

In *De Anima* Aristotle writes:

*For imagination is different from perceiving or discursive thinking, though it is not found without sensation, or judgment without it. That this activity is not the same kind of thinking as judgment is obvious. For imagination lies within our power whenever we wish (e.g., we can call up a picture, as in the practice of mnemonics by the use of mental images), but in forming opinions we are not free: we cannot escape the alternative of falsehood or truth.<sup>5</sup>*

Consequently, imagination was viewed as playing a significant part in perception as well as contributing support to rational thought, rather than as a Platonic deceiver and seducer of the mind which leads cognizers away from truth and reason. Although Aristotle questions whether or not imagination is truly a full mental capacity, his claim that knowledge, belief, and intelligence cannot exist without imagination is extremely powerful and anticipates the philosophical views that were to be formulated much later. Aristotle's claim that images are essential for thought is clearly anti-Platonist.<sup>6</sup> He claims that knowledge of what and of why of things can only be gained when they have been observed by the senses. We find the following in *De Anima* III.8 regarding the relation between thoughts and images:

*(vi) But imagination is different from assertion and denial. For (vii) truth and falsity involve the combination of thoughts. But (viii) what distinguishes the first thoughts from images? Clearly (ix) neither these nor any other thoughts will be images; but (x) they cannot exist without images.<sup>7</sup>*

If imagination is to be an indispensable and pervasive process, it must be distinguished from sense perception, and must be able not only to recall present and past images but also to create images when the empirical object is absent. Before discursive thought can lead to knowledge, this process of imagination must provide empirical sensations to serve as its content. This view of imagination as a process coming between sense perception and understanding had a wide influence during the medieval and modern accounts of human cognition.

In spite of these differences, both Plato and Aristotle view imagination as an essentially *reproductive* activity rather than a productive and creative one. It was not until the seventeenth century that the Platonic and Aristotelian views were merged in search of a unified theory of cognition which attempted to combine the technical operations of imagination in memory and image formation with the spontaneous operations of artistic creativity, spontaneity and genius.

Hobbes' official doctrine is like Plato's; he takes imagination in the Platonic sense of being memory or as the "decaying" of vividness and coherence in the recall of sense impressions, and, because of this, it gives rise to fancy and thus must be controlled by rational judgment. Therefore, it is somewhat surprising yet significant to see the following example in Hobbes which seems contrary to his doctrine:

*You form an image of a horse;  
you form an image of wings;  
you imagine the wings stuck on a horse;  
and so you imagine a flying horse.*<sup>8</sup>

Here, Hobbes is representing imagination as creating a new image by combining in a novel way the images one already has. If this is right, imagination cannot merely be mimetic or reproductive. The conception that imagination was essentially mimetic in nature persisted until the era of Enlightenment; it was not until Hume's philosophical work in the 18th century, that this idea was challenged and a serious alternative perspective became available.

Hume distinguished 'impressions' which are the objects of our immediate awareness in perception from 'ideas' which are 'images' or 'copies' of those impressions.<sup>9</sup> Further, Hume claimed that our perception, that is, our total picture, of the world was pieced together from discontinuous partial impressions. Hume urges that one should avoid "fancy", or the power of the imagination, to combine things in fantastical ways, but at the same time he believed that imagination was essential to our belief system, since it is our imaginative faculty that fills the gaps and discontinuities in our impressions, thereby generating a full and coherent picture of the world. The heart of Hume's theory of mind is that every simple idea is caused by its corresponding simple impression, and that all complex ideas are made up of simple ideas. This means that within the Humean picture, the productive function of imagination is limited to the juxtaposing, or otherwise combining, of available simple ideas into novel complexes; imagination itself cannot provide any new basic constituents, since these must all be derived from our actual

simple impressions. In combining ideas into new complexes, however, Hume appears to place some significant constraints on the freedom of imagination; these are his well-known principles of the association of ideas: resemblance, contiguity in time and space, and causal connection.

## KANT ON IMAGINATION

In contrast to Plato, Aristotle, and Hume, Kant brought us a wholly new perspective on imagination, giving it a central and pervasive role at the very core of human rationality. For Kant, judgment is the fundamental intellectual activity that yields knowledge, and it is his view that imagination plays a crucial role in all judgments. He went beyond Hume's claims when he argued that perceptions do not consist of partial or discontinuous impressions. On Kant's view, what is perceived and experienced in the world is already structured, and in a sense predetermined, by the imagination. Accordingly, he locates imagination within the nature and limits of reason. So, at the most basic level of significant knowledge, the imagination is already fully active, and, as Egan says, it "lies at a kind of crux where perception, memory, idea generation, emotion, metaphor ..., intersect and interact". On Kant's theory of mental activity two kinds of imagination are involved in the generation of knowledge: the reproductive imagination and the productive imagination. According to him, "All judgments are functions of unity among our representations" (A69, B93),<sup>10</sup> where a function is "the unity of the act bringing various representations under one common representation" (A68, B93).<sup>11</sup> The core of Kant's theory of imagination, then, is to delineate the exact role imagination plays in achieving this meaningful unity and order in our experience and cognition. Kant believes that imagination is the principal means by which this order is attained.

Kant claims that it is the cognizer's mind that determines how the world is perceived, and thus structures our empirical knowledge of the world. All empirical knowledge of the world must be constituted by perceptual content as structured and organized by our mental faculties. According to Kant, knowledge involves judgments, and each judgment involves a synthesis of disparate mental representations (images, *sensa*, percepts, concepts, etc.) into a meaningful unity, and it is precisely the function of imagination to achieve such a synthesis. The *reproductive* functions of imagination — of encoding perceptions into memory and retrieving images of things once perceived — which were the limits held in the historic conceptions — are now surpassed and rejected as central elements. Let us, however, first look at Kant's con-

ception of reproductive imagination in our cognitive process.

Suppose you are looking at a table. You receive many distinct and separate sense impressions — a brown color patch, a certain tactile feel, more brown patches of different shapes as you move around the table, perhaps even a certain olfactory sensation (say, the table was just varnished), and so on. But somehow these disparate sense impressions are experienced, or perceived, as a unity, as of one object. A certain coherence is imposed on this set of sense impressions (at the exclusion of many other sense impressions you may be experiencing at the same time) by the synthesizing activity of your imagination. Moreover, as time passes, your sensory impressions of the table *as it was* are somehow unified with your *present* sense impressions of it, to yield a temporally persisting object. Again, this is the synthesis accomplished by the imagination. Third, you do not simply perceive this object — you perceive it *as a table*. That is, you experience it as a certain *kind* of object by bringing it *under a concept*. This is the synthesis of recognition of kinds or concepts. In these ways, imagination for Kant plays an absolutely crucial role in every instance of perceptual judgment. It is clear that Kant attributed to the imagination most of our mental activity that yields unified and coherent knowledge from the manifold of disparate, atomistic, and seemingly unconnected sense impressions. Imagination for Kant, then, is the faculty that performs this essential synthesizing activity, namely “the act of putting different representations together, and of grasping what is manifold in them in one act of knowledge”<sup>12</sup> (A77, B103).

Let us now turn to the productive aspect of imagination. This means that the mind does not simply produce a copy of the world (mimesis) as discovered by the senses. There must be an element of imagination which is not merely reproductive, but productive. This productive imagination is the unifying function of consciousness which through its synthesizing activity gives us the general structure of *objective* experience; it is what accounts for the objectivity and universality of our knowledge. As Mark Johnson puts it, “Productive imagination gives us the structure of objectivity, while the reproductive imagination supplies all of the connections by means of which we achieve coherent, unified, and meaningful experience and understanding”.<sup>13</sup>

Now, the question to be raised is just how productive imagination performs its synthesis to yield objective knowledge. This is perhaps one of the most obscure and profound parts of Kant’s epistemology, but one can make some sense of it as follows: first we need to note that what has so far been said of the synthesizing activity of imagina-

tion does not suffice to lend *objectivity* and *universality* to the product of the synthesis. For there is no guarantee that you and I will come out with the same basic scheme of knowledge of the world, with shared content. For all we know, your imagination works one way, and mine works in an entirely different way, which may be truly bizarre from your point of view. It is clear then that there is a problem of accounting for the objectivity of knowledge. What for Kant guarantees this objectivity is the universality of the pure categories of understanding, e.g., those of substance, quality, quantity, causality, and so on. These are pure in the sense that they are not derived from experience but makes experience possible. They are the most general concepts in terms of which our mind organizes and structures the manifold of our sensory impressions. Roughly speaking, the idea is that we conceptualize the experienced world by breaking it up into substances (things like birds, tables, etc.), their properties (e.g., large, brown, etc.), relating them by the causal relation, and so on. And beyond these pure categories of understanding, we have empirical concepts, such as those of dog, bird, triangle, and the rest, under which we bring objects of our experience, and thereby give structure to our knowledge. But this raises a further question for Kant: How do we manage to *apply* these concepts, both the pure categories and empirical concepts, to sensory contents (or “intuitions”)? The problem arises because concepts are abstract, given by abstract rules that specify the characteristics which an object must possess in order for it to fall under that concept. On the other hand, sensory contents are concrete objects and events in the world. By what mental operations do we sort our sensory contents and bring them under concepts? Kant’s answer: By the use of “schemata”, and it is the function of productive imagination to generate these schemata which bridge abstract concepts with concrete sensory impressions. But what is a schema?

Consider the concept of a bird: this is an abstract rule to the effect that a bird is a two-legged, warm-blooded vertebrate, with a body mostly covered with feathers and the forelimbs modified as wings. Birds are, then, objects which have these properties — that is, satisfy the criteria laid down by the rule associated with the concept of a bird. There are also images, or sense impressions or percepts, of birds. Now, the schema involved in this situation is neither the concept of a bird, nor an image of a bird (much less of course the actual bird). The schema is the representation of a rule of synthesis according to which one can delineate, or construct, bird representations in a *general way*. Our productive imagination produces from the abstract rule governing the concept a general

schema of a bird, which isn't tied to any particular image of a bird, that enables us to recognize particular birds as birds, and classify specific bird images as falling under the bird concept. From Kant's point of view, without this schema of a bird produced by our imagination, we cannot explain our recognitional ability for birds.

Now, every determinate judgment involves the application of concepts and categories, and this means that schemata are involved in every judgment. This makes productive imagination indispensable to our objective knowledge of the world. But Kant recognizes another function of productive imagination, in "reflective judgments", those involved in what is ordinarily called imaginative or creative activities. According to him, our minds can engage in reflection on images, percepts, and concepts, trying to construct new complexes and combinations, and organizing them in novel ways. Here, unlike in the case of determinate judgments constituting knowledge, the imaginative process is not constrained by the requirements of "understanding".

This kind of creative structuring by the imagination is expressed in metaphorical languages and images. Kant recognizes that many words with conventional literal meanings can be used in complex metaphorical and symbolic projections, which are related to their literal meanings but go beyond them. It seems to be Kant's view that metaphorical projections and symbolic representations are necessary for us to comprehend our experience. This is what makes it possible for us to understand poetry and works of art, and make use of analogies in our thinking. But I think we can go further with this kind of productive imagination: in making logical inferences, whether deductive or inductive, we need to construct new, hither-to unforeseen, possibilities; it is no accident that we speak of "inductive projections". Moreover, it is obvious that any serious theory construction in science requires a high degree of imaginative capacities. It is difficult to think of a truly novel explanatory theories, such as, Newton's physical system or Freud's depth psychology, which did not spring from the great imaginative ability of a genius. It seems to me that these activities clearly involve "flights" of imagination, in the essentially same sense in which creative artistic activities involve them.

It is clear, then, that Kant views imagination as pervasively and actively present in all aspects of our cognitive life. Without imagination, not only our creative, artistic activities but all our intellectual, cognitive activities become impossible. We would lose not only our ability to understand metaphors, metonymies, and analogies, but the very ability to perceptually recognize objects and make

judgments about them.

### IMAGINATION AND THE COGNITIVE DEVELOPMENT OF DEAF CHILDREN

I think that it is essential to an understanding of the place of imagination in education that we appreciate the crucial role that imagination plays in the development of logical reasoning and acquisition of knowledge, and the distinctive way in which imagination makes a difference in the development of deaf children's cognitive abilities. One of my concerns in this section is to try to see how Kant's theory of reproductive and productive imagination can illuminate the deficiencies seen in the development of imagination, judgments, and language in deaf children.

Since imagination involves flexibility and plasticity in our thinking and richness and vividness of ideas, and helps create coherence and meaning, it is my view that the cultivation of imagination, especially a sense of wonder and possibility, is what must be central to any curriculum, but especially one for deaf children. Many thinkers hold the view that merely knowing a lot of facts does not enable a child to transcend conventional ideas: in E. D. Hirsch, Jr.'s, and Mary Warnock's views, as in Kant's view, it is imagination that allows this transcendence to occur. Otherwise the child is left with knowledge of facts which have not really been properly understood and thus have not become part of her life. Without an enriched capacity for imagination, children would be unable to truly comprehend the abstractness and ambiguity of language, and this is especially so for the deaf.

Perhaps one might claim that I am being tentative in supporting the development of the imagination in education by using philosophy. Yet Aristotle tells us that philosophy begins in wonder while Dewey wanted to encourage students to utilize a form of scientific inquiry, which helps them to satisfy their curiosity by demanding proof and reasons, thereby developing higher-order thinking skills. Egan states that the common element to be found in Plato, Rousseau, and Dewey is "a concern to stimulate the students ability to think of things as possibly being so, with all that implies in terms of flexibility, richness, and freedom of mental activity"<sup>14</sup> (p. 47). It seems that Egan feels very strongly that when this fails to occur in the child it is not so much the fault of ignorance, but rather of the imprisonment of the mind by the unquestioned, apathetic acceptance of conventional ideas.

The more important issue, then, as Mary Warnock asserted in her study of imagination, is that

“the cultivation of imagination... should be the chief aim of education” (p.9), and that it is our obligation as educators to foster the child’s imagination. Since we cannot separate perception from interpretation, imagination is necessary to enable us to recognize things in the world under their proper categories; it does not merely copy our world — rather it shapes what we perceive by involving our beliefs, desires, and fears. In addition, imagination is also necessary if we are ever to see something as novel and unfamiliar, and for us to be able to see the objects of perception as symbolizing or suggesting something that they are not. Since imagination is a way of understanding, interpreting and giving meaning to our experiences, its proper development is central to the process that leads students to become autonomous thinkers, thinkers with the ability to imagine situations, objects or ideas that are other than those that have previously existed and are known to them.

Imagination is a process of active construction and composition of thought in part motivated by our affective engagement with the environment and not just a mirroring of this environment. Thus it can be clearly seen that every child’s mind perceives differently and that everything that is learned must fit into the complex meaning structures that the child already possesses. In order to facilitate the process of learning and thinking the child must reorganize or reconstruct the pre-existing associations each time a new fact is learned. And each time a child learns a new meaning, she must reassess other meanings in her cognitive repertoire, and then make determinate judgment based on the process of productive imagination which has just taken place. *The Bear Who Wanted To Be a Bear* is a good example of a narrative story in dealing with the concept of what constitutes a person as contrasted with what constitutes being a bear.

Imagination is essential to our beliefs and our ability to make decisions or moral judgments, since this presupposes the ability to make choices, which in turn is impossible without a capacity for conceiving and evaluating a variety of possible courses of action and their expectable consequences. Therefore: the greater our imaginative capability, the more meaningful our moral autonomy. That is, the richer and clearer the conception we have of various possibilities we have open to us, the clearer it becomes for us to discern what is right and good for us at any time. Imagination must aid the child in discerning what is morally relevant in the situation.

For deaf children it is difficult to imagine the abstract or non-concrete beliefs, concepts, and values, and have the ability to discuss their reasons or give proof for their statements. The deaf chil-

dren need to be able to ask questions, and reflect on their thoughts, beliefs, and decisions and give justifying reasons for them.

For deaf children, appropriate uses of narrative prose and fiction are particularly effective. These children need stories which are rich in philosophical, abstract, and ambiguous concepts in order to foster greater flexibility in thinking about things. Deaf children are prone to believe that only one view exists which is absolute and infallible; this is harmful to students. We must encourage them to understand things beyond a literal and concrete level and help them appreciate the possibility of errors connected with their opinions. Insight needs to be developed so that tolerance, prejudice, power, freedom, justice, just to name a few abstract concepts, with which the deaf children often have difficulties can be understood on a deeper more encompassing level. Further it is necessary for the deaf child to be given special help in grasping the distinctions between *fiction* and *reality*. The understanding of this distinction begins with the child distinguishing among the following alternatives: first, saying *I know* that something is the case; second, saying *I think* that something is the case; third, saying *I don’t know*, if something is the case; and, lastly, saying *I don’t think* that something is the case. To say *I think, I know*, is for the child to show uncertainty about her view and be open to allow possibility to occur. On a higher level of development the child must distinguish between what is possible and what is not possible and be able to give reasons or conditions or constraints as to why such and such a thing could not happen (i.e., is not possible).

What is involved in wondering about something, wondering about possibilities about some object, person or situation? Wonder — wonder “if”, wonder “what if”, wonder “why”, and wonder “how” — they all involve the complexity of thinking and association of previously constructed images whereas wonder “what”, wonder “where”, and wonder “when” appear to involve simpler concepts and thoughts. To develop the complex wonder “if”, wonder “why”, and wonder “how”, one must (i) have knowledge of something that serves as a basis; (ii) be curious and question something, goes beyond what she knows; (iii) recognize incongruous beliefs in the process of constructing more abstract superordinate concepts while being aware that one’s beliefs or perceptions might be erroneous or inappropriate, and that a variety of other possibilities exist; (iv) develop the ability to identify a problem and formulate a strategy to solve it. As Egan says, “Imagination entails the ability to transcend the obstacles to thinking with which easy acceptance of conventional be-

liefs, ideas, interpretations, representations, and so on confront us."<sup>15</sup>

All of these points seem to be able to be accommodated within the framework of Kant's account of imagination. On Mark Johnson's reading of Kant, "Imagination is our capacity to organize mental representations (especially percepts, images, and image schemata) into meaningful coherent unities."<sup>16</sup> According to Kant, knowledge results from judgments which unify our representations in the form of concepts, and imagination is a necessary precondition of meaning and understanding. Imagination is pervasive, automatic and indispensable.

If one uses hypothetical questions such as: "What if I were an elephant? What if I were an ant? What if I were to live in a different world — would I be the same?", this requires considerable imaginative envisioning of possible situations that have not yet been experienced. To coherently imagine a possible situation therefore, one must organize perceptual representations and select the ones which are appropriately connected to one another, helping to create a coherent picture. One must weigh the similarities and differences of a situation with other prototypical cases. Going beyond prototypical cases involves metaphorical projections. What is needed for a deaf child, or any child, to enjoy the wonder of possibilities? Egan cites White as concluding that, "to imagine something is *to think* of it as possibly being so." and that an "imaginative person is one with the ability to think of lots of possibilities, usually with some richness of detail."<sup>18</sup> Thus one conceives of the possible not merely the actual. When a child is asked to "imagine what it would be like if", that is really the equivalent of "think what it would be like if" or "project in your mind what it would be like".

The reproductive imagination and reflective judgment discussed in Kant previously really encourages the child to break the constraints of the conventional and orthodox thinking and encourage original, imaginative, constructive, complex higher-order thinking.

Philosophy for Children explores the world by creating a variety of possible examples and situations which test the limits of the child's concepts, beliefs, and values. These thoughts and values are constantly challenged by society and the environment so that the child must develop the intellectual flexibility that allows him to go beyond what he knows and create novel possibilities. Imagination is a process of active construction and composition of thoughts, in part motivated by the children's affective engagement with the environment; it is not just a mirroring of this environment. Every child's mind perceives the world dif-

ferently, and everything that is learned must fit into the complex meaning-structures that the child already possesses. In the process of learning and thinking, the child must reorganize the pre-existing associations each time a new fact is learned, and each time he learns a new meaning, he must reassess other meanings in his cognitive store.

Let us now reflect on these issues specifically in relation to the deaf. It is crucial that the deaf child construct imaginary possibilities and be able to evaluate them. The richness and flexibility of one's imagination depends on richness in one's mental representations, which is, in turn, dependent on both the expressive power of one's language and the variedness of experiential (perceptual) input. *Philosophy for Children* and narrative stories provide the medium needed for the combination of images, thoughts and concepts into new, richer, and varied forms and possibilities, the richer, more unusual and the more effective are the meanings that are generated.

This process of developing a rich and coherent imagination is, for deaf children, a slow and difficult but necessary process; it is necessary if they are to deal with the moral and social implications of their actions in the world. But how do we develop imagination in the deaf? One question that arises at this point concerns the special situation of the deaf in comparison to hearing children: Does the same pedagogical program work equally well for both or are their more difficulties for the deaf involved as a result of their deficiencies in language development? Do the deaf need a special kind of program? This imaginative insight can be taken as a necessary prerequisite to, but not a guarantee of, our treating others as we wish to be treated. Imagining the possible consequences of our behavior as well as others' behavior can enhance one's ability to understand our world and other possible worlds that might exist.

As I have already pointed out moral agency presupposes the ability to make choices which in turn is impossible without the capacity for conceiving and evaluating a variety of possible courses of action and their expectable consequences. Therefore, the greater our imaginative capability, the more meaningful our moral autonomy. That is, the clearer and richer the conception we have of the possibilities open to us, the clearer it becomes for us to discern what is right or good for us. Moral reasoning, attempts to solve indeterminate or conflicting situations which allow us to justify our actions to others. So it would follow that the quality of ability to make moral decisions is crucially dependent on the cultivation of the quality and quantity of our imagination.

Hume suggested that the emotions or "pas-

sions" were a crucial part of one's imagination ([1739] 1888, p. 427) Similarly, Sartre claimed that an affective component is one characteristic of the imagination, and since this necessarily is dependent on the narrative of our life, narrative is a second characteristic. We must know the limits and extremes of things, and we must be actively and compassionately involved in various experiences with an imaginative sympathy for understanding them. 'Romance', 'wonder', and 'awe', 'associating with heroic need', 'revolt and idealism', 'matters of detail', and 'humanizing knowledge' are among the constituents of a child's imaginative life, and they change as the child develops cognitively.

*Wonder is the emotion evoked by perceiving something as extraordinary or strange or as an extreme achievement. It is concerned with the real world, and most readily picks out those features that are most rare. Awe on the other hand, is the emotion evoked by the perception that beyond or behind or beneath the real, tangible world around us we are adrift in an ocean of mystery. . . . Awe is the sense of the mystery that underlies existence; it is evoked by a vivid awareness of all that lies beyond our comprehension, beyond thinking about, beyond explaining.<sup>19</sup>*

It is part of the learning process for the child to acquire a self-aware intellect — that is, to perceive multiple alternatives, to utilize the power of curiosity and inquisitiveness to trigger one's imagination into action and to compare his ideas with those of others, to test his own concepts and beliefs, and end up with a clarified and coherent set of beliefs and values. But this is not an easy task, especially for the deaf child.

Egan makes a very powerful statement when he claims that:

*ignorance starves the imagination. And we are ignorant of all that knowledge which we might know how to access, but haven't, or which we have learned how to learn, but haven't. Only knowledge in our memories is accessible to the action of the imagination. We can only construct possible worlds, can only think of things as possibly being so, out of what we already know... But the richness, variedness, unusualness, and effectiveness of our imaginative activity will turn in significant degree on how much it has to compose or construct with.<sup>20</sup>*

Using the Philosophy for Children Program at an early age with the deaf encourages the deaf

child to begin thinking for herself, encountering situations and new information for the first time, and making decisions based on what she knows. To be able not only to perceive what exists, but be asked to stretch one's imagination to think about what doesn't exist now, but might possibly exist in the future, one must have a grasp of one's own point of view first, with everything that is embodied in it, and then to develop an empathetic capacity and be able to see from another person's point of view. In order to understand prejudice and racism, for example, the deaf child must develop a rich imagination monitored by self-reflective questioning and buttressed by a capacity for empathy.

The deaf often find it difficult to achieve an ability to imagine the abstract, and find nonconcrete beliefs and values highly elusive. Philosophy for Children encourages the deaf child to wonder, to posit questions, to pursue possibilities and ideas that are likely to be ignored in traditional teaching. It allows for the deaf child to question and reflect on his/her beliefs or decisions, helping her to find justifying reasons for them. It also stimulates her to make use of what is known and transform it in new creative ways. To encourage the deaf child to begin thinking for herself. To encounter new situations and new information for the first time and making decisions on what she knows. To be able not only to perceive what exists, but to be asked to stretch one's imagination to think about what doesn't exist now, but might possibly exist in the future, one must have a grasp of one's own point of view first, with everything that is embodied in it and then to develop an empathetic capacity and be able to see from another person's point of view. To reflect on her beliefs or decision helps them to find justifying reasons for them. It is very difficult. To imagine the abstract, non-concrete beliefs and values is very difficult to discuss

In my own experience with deaf children, I find that the use of narrative stories, rich in philosophical concepts, is highly effective in stimulating their imagination and broadening their intellectual horizons. The use of stories helps us to get a grasp on understanding and using metaphor. Alasdair MacIntyre's claim that "there is no way to give us an understanding of any society, including our own, except through the stock of stories which constitute its initial dramatic resources"<sup>21</sup> seems exactly right: it points to a factor that is crucial to an understanding of what is needed to aid the development of imagination in the deaf. Northrop Frye had this to say: "The art of listening to stories is a basic training for the imagination".<sup>22</sup> Appropriate uses of narrative prose and fiction can make a dramatic difference for all children. Narrative stories not only convey informa-



tion by describing actions, events, and human qualities and values, but also invoke emotions. In my experience, not all types of narratives are equally effective. I have found that stories rich in philosophical concepts are especially helpful in stimulating greater flexibility in thinking, as well as helping them to see the difference between reality and fiction. The use of a variety of different types of stories “can help to make more sophisticated our grasp on, and use of, metaphor, which is itself the connecting logic of narrative and a central component in the causality which holds stories together.”<sup>23</sup> The ability to distinguish actuality from mere possibility is not easily acquired by deaf children and requires conscious attention from the teacher. This ability to grasp the difference between fact and mere belief is essential to the children’s development of the ability to attribute false beliefs to other people. Narratives expose children to new possibilities, as well as pretending and make-believe, and this presupposes the ability of the child to attribute false beliefs to other people. The ability to attribute to another person a belief with which the child disagrees requires the ability to see the world from another person’s point of view, namely the ability for empathizing with others. Thus, this empathetic ability, which is especially difficult to develop in the deaf, goes hand in hand with the ability to attribute false beliefs to others and the ability to distinguish the real from the merely possible.

One of the most crucial powers of humans is their ability to think about other humans’ inner mental states. Mental states have a characteristic form composed of three main constitutive elements. The first, content, is that which is the “object” of the mental state. The second element is the attitude held in relation to the content, that is whether the content is believed, hoped for, desired, etc.; and the third is the subject who is taking this attitude to the content. For example, Mary believes there is a dragon in the sky. Mary, the subject, takes the attitude, “believes”, with respect to the content, “there is a dragon in the sky”. We use such attributions in explaining and predicting behavior. When we say that a child has the ability to make such attributions, we mean that the child can predict and explain a person’s behavior by attributing to him mental states like beliefs and desires. This can sometimes involve attributing to him beliefs that are false – indeed, known to be false to the child. This attribution will differ from and indeed contradict the child’s own belief; so it provides a stringent test of the child’s ability to conceive of beliefs as beliefs and distinguish them from fact. This is a very difficult feat for the deaf child to carry out (as it is claimed to be for autistic children).

According to current research, it has been found that children between ages 3 and 4 seem to develop an appreciation that people have different beliefs. Yet it also is known that prior to age 4, children do not seem to have the ability of conceiving and appreciating the possibility that simultaneously contradictory models of reality can hold when an object appears to be one thing but is really another, i.e. using disguises, pretending. The price of not being able to infer that someone is pretending can be very high. As Leslie points out in 1986, the ability to pretend and to make attributions of pretense to others requires mastery of the same logical structures involved in understanding of others as persons with their own mental states. The very young child can handle the basic logic of mental states, and yet they still failed in the understanding of false belief. It seems that at 4 the child is able to link his understanding of the causal mechanisms of objects in the physical world with his understanding of when people are and are not in the position to see and hear things. This is the link between his causal understanding of the concrete world with his more abstract understanding of the mental world. Understanding the appearance-reality distinction requires the child to figure out what belief would result in a person, as a result of his limited exposure to the visual properties of an object. A child must develop an ability to infer what perceptual belief such an appearance would cause in someone who has not been exposed to the full perceptible properties of the object, and this clearly requires the exercise of imagination.

It would seem to follow that as the imaginative insight develops in a child, social virtues, such as tolerance, a sense of justice and fairness, generosity, and sympathy for others would develop as well. Northrop Frye claims that detachment in the imagination is what allows one to become tolerant and just. We tend to present knowledge to students as certain, infallible and not open to questions. However, it would be more effective to present this knowledge as one of many possibilities, as something that is the best available at this particular time. This will be more conducive to students developing a sense that their conception of the world cannot be absolute, but only one of a number of possible ways of making sense of the world. This view of knowledge is more likely to foster flexibility, open-mindedness, and tolerance towards other views, helping to eliminate some of the rigidity and narrow-mindedness that is often seen in all children but especially in the deaf child. Within any unit of teaching in the curriculum, knowledge should not be kept as discrete and disconnected pieces but should be connected with other aspect of the curriculum as well as with val-

ues and information in our life so that the children can see the connections and possibilities beyond the actual and make the necessary choices. Hanson sums up the roles of imagination in our sense by stating that "Imagination is what allows us to envision possibilities in or beyond the actualities in which we are immersed."<sup>24</sup>

It is important for us "to keep in mind Ryle's contention that you cannot teach me to think for myself but rather you can create an environment in which I can figure out how to teach myself to think."<sup>25</sup> One kind of thinking involves largely mechanical "computation" while the other involves "conjectural, hypothetical, imaginative thinking."<sup>26</sup> Analogical reasoning involves the assumption that proportionalities exist when comparing things in nature. While looking for what is common in such relationships one can go beyond information given in the premises and draw new and surprising conclusions. Thus it seems that the basis of proportionalities is resemblance, and that judgment is involved in forming these conclusions. In order to strengthen one's capacity for judgment, one must become fluent in analogical reasoning. Hence, metaphorical thinking, of which analogical thinking is an important subspecies, is "ampliative" not merely "explicative". As Lipman says,

*Metaphorical thinking represents a mixing of categories or schemata—a mixing that, from a literal or prosaic point of view,... issues a fresh and vigorous confluence of thought incomparably richer than the conventional way of thinking. Metaphorical thinking is thus a synthesis of incompatibles that yields, like binocularity, a far greater depth of vision by the mere act of juxtaposition.<sup>27</sup>*

A concept of what might be — a sense of possibility that is, "being able to move in perception and thought away from the concrete given, or "what is" to "what was, what could have been, what one can try for, what might happen" and ultimately, to the purest realms of fantasy— is the touchstone of that miracle of human experience, the imagination."<sup>28</sup> Wedin agrees by claiming that "... imagination seems to be the minimal structure required for an entity to be capable of acts — involving [re]presentation of objects."<sup>29</sup>

How does one discover what is possible, what might be? Deaf children have difficulty distinguishing the concepts of "maybe", "I don't know", "curious", and "possible" and tend not to be able to distinguish them from being real and factual rather than with the concept of something like "possibility". Narrative is effective in exposing the child to the realm of fantasy and possibility; how-

ever, if one can only imagine about what one has knowledge of, then is "expository language" better? Or perhaps with children who have a language deficiency both must simultaneously be used? The distinction between expository texts and narrative texts is that the former represent actual, factual knowledge and reality taken either to be true or false, whereas the latter uses language to tell a pretend, fictitious or imaginary story with romance and adventure involved which contains a much richer content. Jerome Bruner explains the narrative story as the landscape of consciousness and not just action. In children narrative thought develops between the ages of 2 and 4. Obviously the child needs flexibility in association of thoughts and thought processes, that is, reasoning. We need to encourage the child to develop the ability to create possibilities — that is, seen from a different perspective, to look at something in many different ways, or in different or unusual situations. Many other questions arise: what role does language play in the development of the deaf child's imagination? Should there be more, varied, richer input or should the input be controlled and restricted in certain ways. Then there is the additional complication, namely: whatever the idea, concept, or representation of an object, or event is, it must be presented in a variety of situations, and perspectives, so that this may elicit a rich set of choices, decisions, and responses. The child must be able to sort out in his own mind, perhaps on a trial and error basis, the response that is the most appropriate one. For example, in the case of generalizations made by children, they must make many attempts before they can arrive at a specific answer.

Lipman writes that:

*C. S. Pierce distinguished between "explicative" and "ampliative" reasoning. The former is exemplified by deduction, a form of reasoning in which our thinking is extended without enlarging it. The latter is "exemplified by induction and the use of analogy and metaphor represents cognitive breakthroughs. It goes beyond the given and in the process compels our own thinking to go beyond the given. It stands for evolutionary growth rather than stability or fixity. Ampliative reasoning not only expands our thinking but expands our capacity to think expansively.<sup>30</sup>*

Generalizations are amplified in virtue of the fact that they abstract a common characteristic from a group of stories, words or other situations. Hypotheses are also representative of amplified thinking. By utilizing philosophical inquiry, we

can encourage the children to formulate diverse and apparently unconnected information. It would seem that the following three criteria can be used to evaluate the development of imagination: flexibility, fluency, and appropriateness. The first, flexibility allows for movement from one thought to another thought. Fluency entails how rich, varied, and precise the content of the thought is. It involves association, assimilation, and manipulation of thoughts. The third criteria, appropriateness, is a measure of the usefulness of thoughts in a given context — how well thoughts are applied to various problematic situations. If a child's development is in accord with these three criteria, then her thinking and imagination is certain to have achieved greater depth and generality.

Let us finally return to Kant for a general perspective on these issues. I believe that from a Kantian perspective we can view a child's development of his imaginative capacities in the following way. The child perceives some concrete actual object within his perceptual field, then he creates an image of that object in his thought with its various properties and form. But in order to experience that object, he must unify all the past images of that object together and represent this as distinct from other kinds of objects. This representation or schema is delineated in a general way by using one's imagination to synthesis all the various representations into one. But this is still not enough, that is the apprehension of unified images over time. Further one plainly must be able to recognize what one is experiencing and this is done by means of concepts. "A concept is a rule by which a series of perceptual representations can be structured in a definite way."<sup>31</sup> For Kant, one needs the concept of a dog to entertain any thoughts involving dogs. Moreover, it must be realized that making inferences involves making judgments, and that the latter in turn presupposes the possession of concepts. Kant's explanatory schema seems crucial for our understanding as to why deaf children have such great difficulty with higher-order thinking. If there exist any kind of linguistic deficits within the language acquisition, then this will have ramifications on the quality of inferences, judgments and concepts being developed by the deaf child. Thus, unless the deaf child has a rich imagination and schema, then dealing with abstract concepts such as: What is possible; what is impossible; what is improbable but always possible, what is highly probable but possible (not actual), and the like, will be extremely difficult for him to grasp. Therefore, we are drawn to the conclusions that "there can be no meaningful experience without imagination."<sup>32</sup> and that imagination is necessary for meaning, understanding, reasoning and communication to develop and for the deaf

child to be able to think in possibilities.

Thus it appears that empathetic understanding is an important function of imagination. This means that imagination functions as the essential social glue which defines membership in our society. This also means that the pattern of behavior often exhibited by the deaf that shows a lack of appreciation of the social relations can perhaps be explained by their deficit in imaginative capacities, and that an improvement could perhaps be effected by fostering a fuller development of their imagination. As I argued, the capacity for empathy is essentially involved in pretense and this means that the development of imagination has far-reaching implications for the deaf child.

If we look at Picasso's *Bull's Head* what we find is its constitutive elements are the seat and handlebars of an old bicycle. It is the juxtaposition of these parts which exhibit the creative genius of Picasso's imagination. This kind of thinking is far from simple, it is quite complex; Janson calls it "the leap of the imagination by which Picasso recognized a bull's head in these unlikely objects (the mounting of the seat on the handlebars)."<sup>33</sup> The same can be seen in Rene Magritte's surrealist paintings. It seems that each time an idea is used in a novel way, it requires a further leap of the imagination involving the fluidity and flexibility of one's ever-growing mental capacity, and this is the goal that the educator of the deaf must aim for.

*Imagination: the realm of the possible  
I dwell in Possibility-  
A fairer House than Prose-  
More numerous of Windows-  
Superior- for Doors-*

—Emily Dickinson

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#### NOTES

1. Amy attends the Rhode Island School for the Deaf.
2. Mark Johnson, *The Body in the Mind*, p. 172.
3. Plato, *The Republic*, Bk. VI
4. Aristotle, *De Anima*, 432a.
5. *De Anima*, Bk. 3, Chap. 3, 427b.
6. Wedin, p. 141.
7. 432A10-14 in Wedin, p. 122.
8. From *Leviathan*: London: Dent, 1962, p. 3 [first published in 1651].
9. Egan, p. 3.
10. Immanuel Kant, *Critique of Pure Reason*, Norman Kemp Smith, trans., New York: St. Martin's Press, 1965.

11. Immanuel Kant, *Critique of Pure Reason*, James Haden, trans., New York: Hafner, 1968.
12. Immanuel Kant, *Critique of Pure Reason*, Norman Kemp Smith, trans., New York: St. Martin's Press, 1965.
13. Mark Johnson, *The Body in the Mind*, p. 151. I am greatly indebted to mark Johnson and his theory of imagination for providing the basis of my discussion.
14. Egan, Kieran, *Imagination in Teaching and Learning*, p. 47.
15. Kieran, *Imagination in Teaching and Learning*, p. 47.
16. Johnson, p. 140.
17. White (p. 184), in Egan, 1990, p. 30.
18. White (p. 185), in Egan, 1990, p. 30.
19. Egan, p. 78.
20. Egan, pp. 52-53.
21. MacIntyre, 1981, p. 201.
22. Frye, 1963, p. 49.
23. Egan, p. 63.
24. Hanson, 1988, p. 138, p. 59.
25. Lipman, *Thinking in Education*, p. 261.
26. Lipman, p. 195.
27. Lipman, p. 200.
28. Singer and Singer, *The House of Make-Believe*, p. 19.
29. Wedin, p. 43.
30. Lipman, p. 199.
31. Johnson, p. 148.
32. Johnson, p. 151.
33. Janson, p. 10.

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