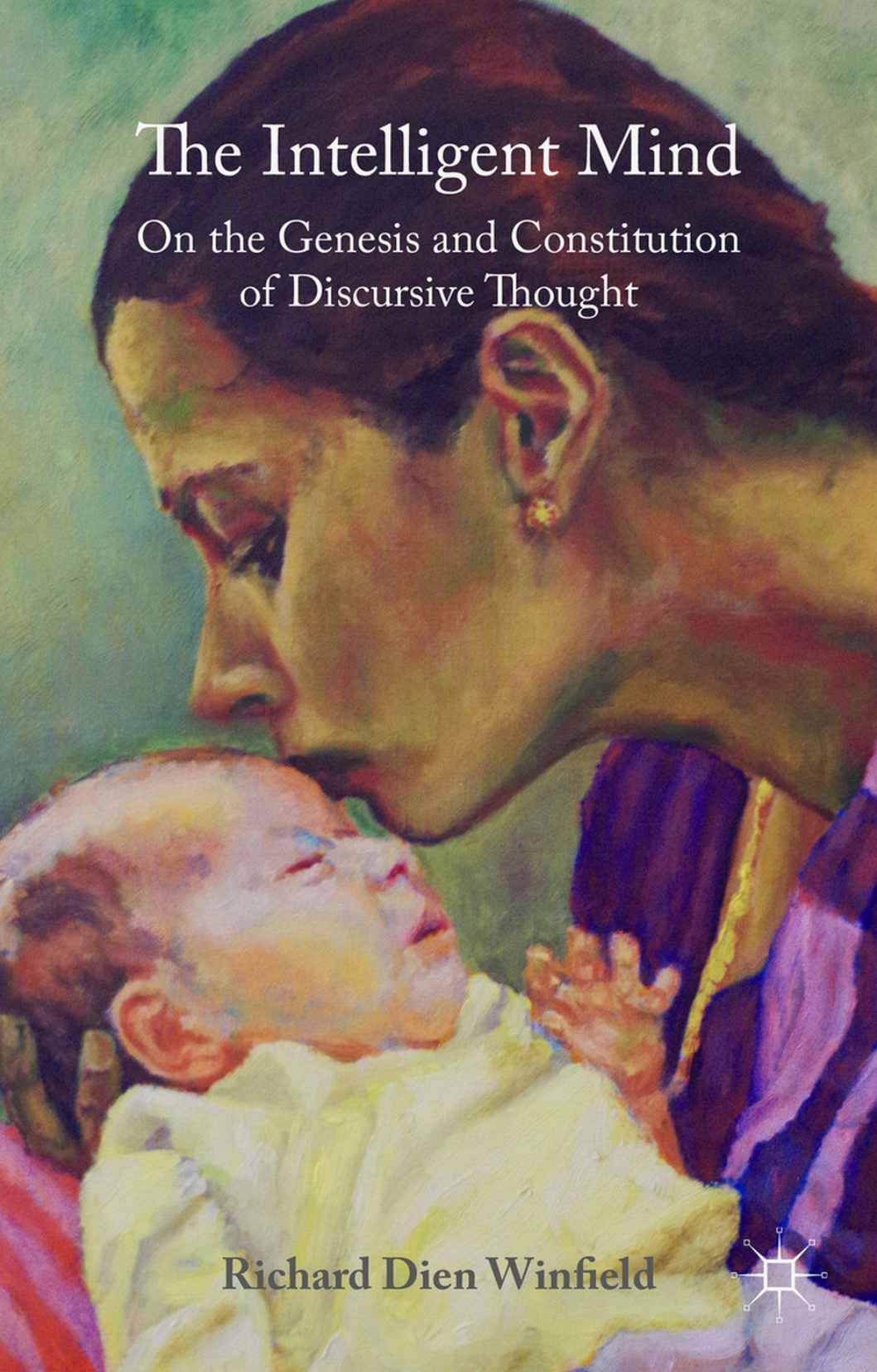
The Intelligent Mind
On the Genesis and Constitution of Discursive Thought
Richard Dien Winfield

The Intelligent Mind

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The Intelligent Mind

On the Genesis and Constitution of Discursive Thought

Richard Dien Winfield
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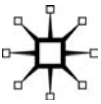

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In memory of my maternal grandparents, Yetta Stern and Israel Yudien

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Preface

The Intelligent Mind: On the Genesis and Constitution of Discursive Thought attempts to provide a systematic account of the psychological origin and determination of theoretical intelligence. This book is the sequel to *The Living Mind: From Psyche to Consciousness*,[1] a work that conceived the preconscious psyche and the prelinguistic consciousness and self-consciousness, those prerequisite mental components without which the intelligent mind can neither be nor be conceived.

A viable outline of theoretical intelligence and its relation to the psyche and consciousness has already been presented by Hegel in his *Philosophy of Subjective Spirit*.[2] Hegel's outline, however, is undeveloped and incomplete. In *Hegel and Mind: Rethinking Philosophical Psychology*,[3] I critically addressed Hegel's own account. Here what lies at stake is building upon Hegel's unfulfilled project. Starting in Chapter 2 and continuing through Chapter 5, *The Intelligent Mind* goes beyond what Hegel provides to conceive in detail how intelligence develops from intuition through representation and imagination to language and thought. In so doing, *The Intelligent Mind* draws upon more recent philosophical and nonphilosophical research that provides important resources for understanding how discursive thought is psychologically constituted.

Readers will see that as the text unfolds, the material becomes more and more concrete and more and more familiar. By the end, they will find that their progress has been a voyage of self-discovery.

Notes

1. Richard Dien Winfield, *The Living Mind: From Psyche to Consciousness* (Lanham, MD: Rowman and Littlefield, 2011).
2. G. W. F. Hegel, *Philosophy of Mind*, being *Part Three of the Encyclopaedia of the Philosophical Sciences (1830)*, trans. William Wallace; together with the *Zusätze in Boumanns Text (1845)*, trans. A. V. Miller (Oxford: Oxford University Press, 1977).
3. Richard Dien Winfield, *Hegel and Mind: Rethinking Philosophical Psychology* (Houndmills, UK: Palgrave Macmillan, 2010).

Introduction

I.1 Why psychology must address intelligence

Psychology faces a special dual challenge in making mind its object.

To begin with, psychology must provide knowledge about an object that is essentially subjective in character. To grasp this subjectivity, psychology cannot restrict itself to the categories sufficient to conceive the mechanism of matter in motion, the external teleology of artifacts, or the internal teleology of life.

Mechanism cannot suffice to capture anything subjective because mechanistic relations determine objects from without and only in respect to their matter, with complete indifference to what they are in themselves. As a consequence, any determining selfhood is precluded. Instead, under the sway of mechanism, things are governed by laws of matter, exhibiting relations of efficient causality where the alterations that objects cause and undergo have nothing to do with their own specific natures.

Although artifacts have a being that involves not just matter but a function reflecting their embodiment of form, the activity imparting their form lies outside them in the antecedent making by which they are produced. The process of formation is extinguished with the completion of each artifact, which embodies its design as a passive form, responsible for neither its prior conception nor its imposition upon material. Hence artifacts cannot exhibit the self-informing activity by which mind can be subjective.

A living organism, for its part, may actively preserve itself and its species being, with the complementary working of its organs enabling it to function as a self-sustaining entity, operating as an end in itself. Nonetheless, the reciprocal functionality of organic unity does not itself

provide the centralized agency of a controlling self, which orders the whole to which it belongs. Instead, each organ fulfills a particular function that may contribute to the unity of the organism but does not have that unity as the direct aim of its activity. Hence, organic unity lacks a seat of genuine self-governance such as can allow mind to inform the entirety of its embodied being and subjectively determine itself.

Psychology cannot escape the challenge of finding more appropriate categories for conceiving subjectivity, for every level of mental activity presents a centralized self-activity that neither mechanism, the products of making, nor organic unity can independently exhibit. The preconscious psyche operates by feeling its own feelings, communing exclusively with itself, without yet distinguishing subject and object. The mind is conscious only by relating to its own mental contents as determinations of an objectivity confronting it. Intelligence, for its part, intuits, represents, and thinks by apprehending its own subjective determinations as both its own product and about something else. In each of these modes, mind is what it is in virtue of how it relates to and acts upon itself.

Psychology, however, must not just account for the subjectivity of its object. It must, secondly, establish how the subjectivity of mind can theorize and theorize about not just inanimate things, artifacts, or life in general but the very rational mind that engages in psychological inquiry. Other disciplines can address their topics without being directly compelled to account for the worldly reality of their own inquiry. The investigation of mind must establish how its object is no less a living subject that engages in theorizing. If not, the psychological reality of that investigation's own undertaking remains in question.

The subjectivity of psychology's special object certainly includes a sentient, irritable self that feels its own feelings as an embodied psyche. Without mind having some given content of its own to which it immediately relates itself as a living individual, no mental activity is possible. Moreover, the object of psychology must also involve the disengaged awareness of consciousness, which treats the feelings of the psyche as determinations of an objectivity it confronts. Otherwise, mind communes only with its own sentiments and is in no position to be aware of anything as an object of knowledge. Psychology, however, cannot limit its investigation to just the subjectivity of the psyche and consciousness, in which dumb animals and young children can share without engaging in thought or language. In order to account for the psychological realization and truth of its own science, psychology must further explain how mind can be rational and engage in the theorizing that psychological inquiry involves.

For the *philosophy* of mind, this challenge is most imposing. Philosophical psychology must explain more than how theorizing in general is possible. It must further establish how philosophical investigation can be psychologically actualized and how the psychological reality of mind provides no obstacle to obtaining philosophical wisdom. If the philosophy of mind fails to do this, its entire enterprise is in vain.

Consequently, the philosophy of mind must advance beyond conceiving the psyche and consciousness to address intelligence, the form of mental subjectivity engaging in theorizing and all practical activities predicated upon theorizing.

I.2 The challenge of conceiving intelligence in distinction from and relation to the psyche and consciousness

Whereas philosophical psychology must conceive intelligence, this can be done only by distinguishing intelligence from the psyche and consciousness while taking due account of their relationship to intelligence.

Intelligence can neither be nor be conceived without involving the psyche and consciousness, which themselves presuppose animal life. To begin with, mind must be embodied. Mind without matter has no individuating anchor to tie together its contents into a single self and differentiate what is mental from what is merely logical.[1] A disembodied "I" that must be thought in conjunction with one's representations has nothing to distinguish it from any other "I" about which the same can be maintained. Only a unique material embodiment can give mind an exclusive identity. Moreover, mind cannot fail to be animate, for without an animal embodiment, nothing can have the individuated, centrally self-active subjectivity essential for mental existence. Matter without the animation of animal life cannot overcome the mechanistic limits of inorganic nature and the dispersed local sensitivities and tropic reactions of plant life and provide mind with a fit self-active realization in the world.[2]

Every mind must involve what animal organisms first make possible for mental life: a psyche, a living, sentient, and irritable self that feels its own feeling. In virtue of so relating to itself, the psyche can then modify its subsequent self-feeling by acquiring habits and giving external physiological expression to its mental activity. These psychological milestones provide the basis for mind to disengage itself from its own mental contents and oppose them as something with a unity of its own, confronting this awareness as an independent objectivity. Mind thereby

supplements its psyche with consciousness. Those same contents that the psyche feels without distinguishing subject and object now become treated as the sensations of something mind confronts. This emergent subject-object polarity constituting consciousness is a prerequisite for intelligence. Intelligence cannot know its mental contents to be both its own product and determinations of anything objective unless mind has both a psyche to commune with its own mental contents and a consciousness of objects to which to refer its intuitions, representations, and thoughts. Without the awakening of consciousness from the self-relating feeling of the psyche, theorizing would have nothing about which to theorize.

If, however, intelligence is not sufficiently differentiated from the psyche and the consciousness that it presupposes and involves, the possibility of actual theorizing is undermined. Much modern thought has fallen into this quandary by confining all mental activity within the framework of consciousness, reducing philosophical psychology to a theory of consciousness. This deprives any philosophy of mind of the ability to account for the psychological reality and truth of its own theorizing for two fundamental reasons.

First, if intelligence is conflated with consciousness, consciousness tends to be treated as if it were inherently discursive. All consciousness then would have to involve language and thinking. If that were the case, how language and thought are acquired in the first place would become an insoluble mystery. Tying consciousness to conceptualization and discourse leaves language having to be invented and later acquired from other linguistically competent persons by individuals who cannot already be conscious or self-conscious. Yet without any prediscursive consciousness and self-consciousness, how could the inventors of language, let alone language learners, be aware of things, other interlocutors, or the expressions they use in reference to a world they have in common? At best, preconscious individuals would feel their own sensations but be incapable of apprehending them as determinations of anything objective. The mental horizon for the emergence and acquisition of language would be completely absent. To account for the origin of discourse, some allowance must therefore be made for a nondiscursive embodied consciousness and self-consciousness, which then can develop the facilities of semiotic imagination and expression permitting the emergence of linguistic interaction.[3]

Second, if intelligence is identified with consciousness, theorizing can never free itself of the limitations of the subject-object opposition of consciousness, which bars the way to any genuine philosophical

cognition. That opposition consists in mind confronting the object of its knowledge as something given. This leaves always suspect the correspondence of mental determinations with what they are putatively about. Any attempt to certify the truth of consciousness's apprehension of its object will remain contending with how the object appears to consciousness rather than ever accessing what that object is in itself apart from its relation to consciousness. For if knowing always has a presupposition – that is, some extraneous given to which it must relate to obtain knowledge – the knower must depend upon its relating to access the object of knowledge. Accordingly what it thereby obtains is always how the object appears by means of the cognitive relation rather than the object as it is in its own right independent of that relation.

The distinction of intelligence from consciousness at least leaves open the possibility that mind can take a form in which cognition addresses objects that are not given independently to it but have an intrinsic relation to the thinking that grasps them. Then the objective thinking of philosophy can be psychologically realizable.

I.3 Why the conception of intelligence must follow that of the psyche and consciousness

Differentiating intelligence from consciousness and the psyche is therefore absolutely crucial for the philosophy of mind. Yet since intelligence cannot be or be conceived without involving psyche and consciousness as distinct yet related spheres of mental life, all three of these mental subjectivities must be given their due if mind is to be understood to realize the rational agency on which any theorizing about mind depends.

Given how psyche, consciousness, and intelligence relate to one another, philosophical psychology must address them in a specific order, conceiving first the psyche, then consciousness, and lastly intelligence. This order is unavoidable insofar as the psyche is a psychological prerequisite of consciousness, just as consciousness is a psychological prerequisite of intelligence. The relationship between psyche, consciousness, and intelligence accordingly constitutes a sequence with phylogenetic, ontogenetic, and coeval structural implications.

To begin with, the psyche can exist without consciousness and intelligence, whereas they cannot function without involving its self-feeling subjectivity. Mind can exist just as a psyche, without consciousness or intelligence, first phylogenetically in the most primitive animal organisms, which may feel, develop habits, and express their sentiments but never distinguish subject and object. Secondly, mind can arise in an

individual who begins life with just a self-feeling self and only later succeeds in organizing its field of sensation into an objectivity opposing its awareness. Thirdly, an individual with a species being capable of acquiring consciousness and/or intelligence may be reduced to a psyche due to congenital impairment or subsequent disease or injury. Fourthly, mind will possess its psyche while being conscious of objects and, in the case of discursively intelligent individuals, while exercising language and thought.

Analogously, consciousness may exist with no more than a psyche in species that never acquire intelligence. Alternately, a psychologically immature individual may possess just feeling and conscious awareness and only later in life attain intelligent subjectivity. And an individual of a normally intelligent species may be just nondiscursively conscious due to congenital handicaps, disease, or accidents. Whenever intelligence does emerge, it will necessarily be accompanied by psyche and consciousness, bringing mental life to its full totality.

I.4 Intelligence as the psychological domain of rationality

The rational mind is characterized by two coordinate features: an awareness of the identity of its subjectivity with objectivity and an awareness of its own universality. In both respects, the rational mind can be said to be aware of itself as reason, insofar as reason is both a determination of the subject and a determination of the objectivity it confronts. Thought devoid of objectivity is irrational, just as anything opaque to conceptualization lacks rational character. Reason is objective thought just as much as conceivable objectivity.

Moreover, reason, by so comprising the correspondence of subject and object, is truth. The rational mind is thus a true mind by giving itself a subjective determination that is intrinsically connected to what is objective. For this very reason, the subjectivity of the rational mind is not a merely particular viewpoint with contents devoid of any necessary relation to those of other minds. The rational mind, rather, possesses an awareness it knows to be universal insofar as it grasps the products of its mental activity to contain what each and every mind must produce to be rational and true.

Intelligence provides the basic psychological domain of the rational mind by uniting the two distinguishing features of the psyche and consciousness. The psyche relates to its mental contents as nothing but its own feelings, whereas consciousness relates to its mental contents as just the determination of some object opposing it. By contrast,

intelligence relates to its mental contents as *both* subjective determinations it has produced and objective determinations of what can independently confront it. Thereby intelligence exhibits an awareness of reason by apprehending its mental contents as being both subjective and objective.

This need not take the form of a conceptual, linguistically expressed content. Before mind can discourse and think, it must already have at its disposal preconceptual contents that are both subjective and objective. Such contents are provided by intuitions and representations, which the rudimentary prediscursive shapes of intelligence apprehend to be both products of mind and about something objective. In intuition, intelligence relates immediately to the same immediate content that the psyche regarded as a feeling and consciousness took to be a sensation of an object. What intelligence does to transform feeling and sensation into intuition is to treat this mental content as both an immediate factor of mind and a determination of something directly given to it. With representation, intelligence relates to a mental content it has internalized, producing it through imagination while regarding it as referring to something other than itself. Only when mind has such mental contents that it regards as both subjective and objective can mind have something it can take to represent a meaning susceptible of truth.

I.5 What intelligence adds to reason as consciousness

The seeds of the rationality of intelligence are planted in the form of self-consciousness where reciprocally relating individuals become conscious that their respective minds share the same form of awareness. In this mutual interaction, each participant is conscious of another whose consciousness mirrors its own. This enables the reciprocating individuals to be conscious of the identity of their own subject and object, for what confronts them as an object is another awareness like their own. Each consciousness thereby can apprehend that its self-awareness is a universal self-consciousness, shared by the other awareness that is its object. For just this reason, each consciousness is equally aware of the truth of its awareness. Once consciousness knows its object to correspond with its own self, consciousness can be certain not only of its universality but of the correspondence of subject and object – or of truth.

Significantly, when self-consciousness becomes universal by relating reciprocally to another self-consciousness, no concepts need be thought or communicated. All that is necessary is that two conscious individuals

mutually exhibit the desire to satisfy the desire of one another. The psyche's expressive abilities conjoined with consciousness's awareness and desire of objects suffice to enable one self-consciousness to be aware of itself confronting another self-consciousness engaging in the same relationship.[4]

The same absence of thought and language applies to consciousness when it takes the form of reason. This occurs when consciousness becomes immediately certain of the identity of consciousness and self-consciousness, thanks to universal self-consciousness being conscious of an object equivalent to its own self-consciousness. Although reason as intelligence may need the concept and the idea to *think* this identity in its truth, reason as consciousness can still be *certain* of that identity without employing concepts and language. As a form of consciousness, reason is aware of the identity of subject and object without removing their opposition. Consciousness as reason is simply certain that its own mental determinations are also determinations of objects as they are independently given. The ego and the non-ego are opposed but correspond, and this correspondence is what is taken as object by reason as consciousness. Having certainty of this does not involve referral to concepts or propositions as a securing bridge. It is a nonpropositional attitude in which the subject relates to its mental content as both independently given and matching the subject. The fit is not one between concept and object but merely between the nondiscursive content of the subject and what confronts it.

The possibility of such a nondiscursive universal self-consciousness and consciousness of reason is confirmed in our experience of dumb animals and preverbal children, insofar as they show themselves able to recognize the sentient consciousness and desire of others and express this recognition in directed behavior. This possibility is also suggested by how nondiscursive universal self-consciousness and its consciousness of reason provide preconditions for the emergence of thought and language, whose reality no inquiry can coherently deny. Without a preconceptual, prelinguistic awareness of other minds we know to be like our own, we could never engage in the invention of language or learn to speak and think from others already conversant.

Yet the emergence of thought and language cannot just rely upon consciousness. It no less requires that *intelligence* arise with nondiscursive shapes of its own, providing something that no form of consciousness can supply. This is so because only intelligence knows its mental contents to be its own products as well as to be about something objective. Only with both of these relations can mind entertain mental

contents that it knows to *mean* something. This is because any awareness of meaning depends upon comprehending a mental content to be a product of mind that is intended to be about something else. This dual relationship is available only to intelligence, even though that availability still depends upon the psyche to provide mental content and the embodied capacity to produce intuitable expressions, as well as upon consciousness to be aware of objects to which such expressions could refer.

I.6 Intelligence as a knowing of reason

Whereas consciousness can have only *certainty* of reason, intelligence can come to obtain *knowledge* of reason. This distinction is of key importance in understanding the special role of intelligence in the life of the mind.

The rational certainty of consciousness is distinguished from the rational knowledge of intelligence by limitations arising from the unity of subjectivity and objectivity achieved in the reciprocity of universal self-consciousness. Self-consciousness is universal when one consciousness is aware of another consciousness that it recognizes to be like itself and that recognizes it to be an awareness of the same kind as itself. Here the object of each self-consciousness is another self-consciousness that thereby knows itself to be universal in character. When this universal self-consciousness applies itself to objectivity in general, it comprises reason as consciousness, where consciousness is certain of knowing itself in the objectivity it confronts. Reason as consciousness, however, signifies only an abstract, formal unity of self-consciousness with its object.[5] The unity is formal in that it in no way determines the content of what is both subjective and objective. Instead of signifying *truth* proper, this unity provides merely *correctness*, a correspondence in which the terms that fit are simply given, without any justification. *Any* representation is *correct* simply in virtue of corresponding with *whatever* phenomenon happens to be given to consciousness. Correctness, unlike truth, has no intrinsic connection to the contents to which it applies. Consequently, awareness of the correctness of any mental content is no more than certainty, a subjective assurance that mind's disengaged filling corresponds to something given, some phenomenon whose own truth remains undetermined. Correctness mobilizes no reasons to support correspondence, nor does it require conceiving anything universal and propositional.

By contrast, reason as intelligence comprehends the conceptual, that is, universal determination of what is both subjective and objective, which involves both thinking and linguistic competence. The truth of

this knowledge will therefore have the conceptual character allowing for propositional relations. Correspondence here ties together concept and objectivity, so that truth is the unity of concept and objectivity. Unlike the givens that figure in correctness, concept and objectivity are intrinsically connected insofar as objectivity has the same independent self-subsistence exhibited by the autonomy of conceptual determination. This enables knowledge of truth to pertain to what is determined in and through itself rather than to something posited by something else to which it is relative.[6]

Admittedly, intelligent reason takes different forms in which knowledge captures the unity of concept and objectivity with varying degrees of adequacy. In each case, however, reason concretely *theorizes*, that is, *conceives* objectivity, producing mental determinations that are just as conceptual as the object to which they correspond. To do so, mind must employ language, and hence, the truth that theoretical knowledge grasps is necessarily discursive. Consciousness, by contrast, can be aware of the correctness of its mental determinations without theorizing, without working them up into a universal, conceptual content and finding that same content in its object. Accordingly, reason as consciousness can be aware of the formal correspondence between what is given in its disengaged mind and what it confronts in the world, without having anything to think or say.

Drawing this hard line between the certainty of consciousness and the knowledge of intelligence does not, however, diminish the role of prelinguistic, preconceptual consciousness and intelligence in the constitution of discursive thought. Although intelligence is that mental subjectivity within which words and thoughts arise, it more generally constitutes an awareness of reason, where mind relates itself to its own cognizance of what is equally subjective and objective.[7]

To understand the full scope of intelligence, it is important to consider how intelligence, in comprising an awareness of reason, makes consciousness its object.

I.7 Intelligence as making consciousness its object

Consciousness always relates to its mental content as a determination of an object confronting its awareness. That object can be a thing with properties, another consciousness, or the identity of consciousness and self-consciousness where consciousness confronts the correspondence of its consciousness with objects. In every case, consciousness is aware of its object but not of the relation between its mental content and that

object, whatever it may be. In other words, the relating of consciousness to its mental content, which treats that mental content as an object it finds given to it, is never itself the object of that relating. Only a further reflection by consciousness can make that relating its object, but that further reflection does not thereby have awareness of the (meta)reflection in which it is engaged.[8]

Intelligence transcends this limitation by being aware of both sides at once: the object of mind as well as mind's own relation to that object through its own mental content and activity. In this respect, intelligence apprehends consciousness as its object, relating to both sides of the polarity of the subject-object opposition of conscious awareness.[9] This applies generally to all forms of intelligence. In intuition, intelligence is aware of its mental content as both an immediate product of mind and a direct determination of an object. In representation, intelligence apprehends its mental content as both a product of imagination's reflection upon intuition and as an indirect determination of an object. In thinking, intelligence apprehends its mental content both as a product of mind's verbalizations and as being about conceivable objectivity.

In none of these forms of intelligence does mind operate *within* the opposition of consciousness, as one pole of its relation. Rather, by having both poles, subjectivity and objectivity, as its object, intelligence surmounts their opposition. In so doing, intelligence provides the psychological means with which mind can overcome the epistemological limits of consciousness, whose emblematic confrontation with the given always leaves problematic correspondence between knowledge and its object. Whereas consciousness always addresses an object given independently of its relating to it, intelligence always deals with a subjective content that it knows to be intrinsically objective and an objectivity that it knows to be inherently within its reach.

I.8 Intelligence as initially theoretical

The elementary forms of intelligence are theoretical rather than practical in character. Intuition, representation, and thinking all involve cognition. In intuiting, representing, or thinking, mind produces alterations in its mental contents that it recognizes to be about something. The correspondence between intuitions, representations, or thoughts and that to which they refer is achieved in mind through the transformation of mental content. The correspondence does not occur in virtue of an alteration of the object of intuitions, representations, or thought. For this reason, intelligence here is theoretical, broadly speaking.

Intelligence must begin as theoretical rather than practical for two complementary reasons. First, the emergence of intelligence from consciousness concerns an alteration in how mind relates to its own contents. Although this alteration follows from the worldly interaction of living minds who give expression to their desires, it proceeds within the subjectivity of each individual. The initial engagement of intelligence thus does not involve any transformation of objects.

Secondly, the practical engagements of intelligence all depend upon the theoretical activities of mind, whether these involve intuitions, representations, or thoughts. To have emotions, mind must intuit the world it confronts, relate to its representations of desire satisfactions, and consider to what degree its desires are fulfilled. To act upon its emotions and impulses, mind must represent its own aims and how it can realize them in the world. To pursue the general goal of happiness, mind must first think of the aggregation of desire satisfaction and then consider what must be done to be happy. And finally, to act ethically, mind must think of right and duty. In all these practical undertakings, mind must rely upon workings of theoretical intelligence.

Consequently, in thought as well as reality, theoretical intelligence precedes practical intelligence, which contains the former.

This ordering is not a succession of separate theoretical and practical "faculties" that exist side by side in external juxtaposition. Nor is the ordering of their own constitutive forms – of intuition, representation, and thought on the one hand and of emotion, impulse and choice, and happiness on the other – a mechanical aggregation of separate "powers."[10] Precisely because the conceptually preceding forms are involved in those that follow, all have as intrinsic a connection as do theoretical and practical intelligence. The conceptually "preceding" dimensions may exist without being accompanied by those that follow, but because they are included in the latter, they cannot coexist externally with the conceptually subsequent dimensions. Thus, an animal or young child may have only intuition and representation, without thinking or speaking. Yet no one can have thought in external juxtaposition with intuition and representation. Thought involves both even when intelligence conceives purely conceptual contents, for the most abstract ideas cannot be expressed inwardly or outwardly without verbal representation. Similarly, a preverbal agent may have emotion and be impelled to choose without yet pursuing happiness. To aim at happiness, however, one must employ emotion, as well as impulse and choice, excluding any extrinsic aggregation of these different practical dimensions.

I.9 Anticipatory contrast between theoretical and practical intelligence

Intelligence is always the subjectivity of an individual with an animal body, a psyche, and consciousness. This means that no matter how theoretically intelligence may operate, it always proceeds as the mental activity of a living subject entangled in all the processes of its sentient, irritable species-being existence, including those interactions specific to the psyche and consciousness.

Nonetheless, the reality and account of intelligence cannot be complete without complementing the forms of theoretical intelligence with those of practical intelligence, wherein mind concerns itself with altering objectivity to conform to its ends.

Both theoretical and practical intelligence consist in activities that produce unities of subjectivity and objectivity. Such unities are emblematic of rationality, which knows its own subjective workings to be inherently objective and open to truth and, in that respect, universal to all rational subjects.[11] These unities all render subjectivity and objectivity conformable without removing their distinction. For this reason, they each involve an identity in difference. Theoretical intelligence generates a *subjective* identity in difference of subjectivity and objectivity by producing mental contents that conform to objectivity. Practical intelligence conversely generates an *objective* identity in difference of subjectivity and objectivity by altering the world so that it conforms to the ends of the subject. Both theoretical and practical intelligence proceed from an initial separation of subjectivity and objectivity that intelligence overcomes by producing, in theory, subjective modifications that correspond to objectivity and, in practice, objective alterations that conform to subjectivity. Theoretical intelligence thereby aims to arrive at truth, whereas practical intelligence aims to produce the good.[12]

Admittedly, intelligent individuals may have varying capabilities to alter the world in which they are immersed, just as they have varying theoretical abilities. These practical capabilities, like their theoretical counterparts, reflect differences in species being, individual congenital endowments, health, experience, and fortune. The range of choice may vary greatly, narrowing down to the most restricted paralysis, where the only decisions available may be blinking an eyelid or just altering one's brain waves. Yet even where the use of these options is ignored by others, leaving the victim in helpless isolation, intelligence has at least one practical dimension. This minimal, most elementary form of practical

intelligence, presupposed by and incorporated in all others, is emotion. Emotion is the practical feeling by which the individual immediately reacts to the awareness of how its desires are realized in the world.

Of course, just as intelligent individuals may possess varying degrees of all the shapes of theoretical intelligence, they may dispose of more or less complete practical intelligence. The options follow an order determined by how the different forms of practical intelligence relate to one another. Just as the psyche, consciousness, and intelligence emerge in a sequence of presupposition, so too do the different shapes of theoretical and practical intelligence.

With respect to theoretical intelligence, the order proceeds from intuition to representation to thought. Intuition comes first, since mind can intuit without having to engage any other form of intelligence, whereas representation depends upon prior intuition and thought depends upon representation. Hence, an intelligent mind could just intuit without being able to represent or think or, alternatively, intuit and represent without ever thinking but never think without intuiting and representing.

Similarly, practical intelligence must begin with emotion or practical feeling, proceed to impulse and choice, and thereupon pursue happiness. Emotion could be had by a mind incapable of taking any decision, but choice depends upon practical feeling to engender the impulse to decide. Similarly, individuals might be able to choose without being able to conceive the general goal of happiness. Yet pursuing the aggregate of desire satisfaction depends upon emotion and choice.

For these reasons, the systematic examination of intelligence will begin with theoretical intelligence, addressing intuition, representation, and thought in that order. *The Intelligent Mind* undertakes to carry out this examination and conceive theoretical intelligence in its entirety. This will pave the way for the systematic investigation of practical intelligence, which, in conceiving emotion, impulse and choice, and finally the pursuit of happiness, accounts for the psychological prerequisites for self-determination, which takes us beyond the philosophy of mind into the domain of ethics.

1
Theoretical Intelligence as Cognition

1.1 Theoretical intelligence

Theorizing cannot be engaged in by mind if it is restricted to either a psyche or consciousness. To theorize requires that mind be aware of its mental content as both a product of the mind's activity and about something objective. Only then can that content comprise a theory, a mental construct that mind comprehends to be of its own making as well as laying hold of objectivity. The self-feeling activity of the psyche may allow mind to commune with its own sentiments, but it provides no way of treating them as true representations; that is, as subjective modifications corresponding to an opposing objectivity. Although consciousness treats its mental contents as determinations of an objectivity it confronts, it cannot at the same time apprehend these mental contents to be products of mind that conform to that objectivity. Only a further reflection can make these mental contents a psychological object of conscious awareness, but this consciousness does not therein confront the mental content it employs to perceive that object. Once more, a further reflection, whose own act remains unnoticed by itself, is needed. Hence consciousness never theorizes but only has awareness of objects, which may be natural things, psychological phenomena, artifacts, living organisms, other conscious selves, or the reflection of itself in its interaction with others.

Intelligence first makes theorizing possible by enabling mind to be aware that its mental content is both its own subjective product and a determination of something objective to which mind's products refer. In so doing, intelligence comprises cognition, engaging in theory rather than practice. This undertaking is theoretical because the correspondence between mental content and what it is about is achieved by a

mental determination in the subject rather than by a practical modification of objects confronting the knower.

Such a cognitive, theorizing character applies to all forms that intelligence can take before undertaking the practical engagements that presuppose them. Intuition, representation, and thought all involve cognition and some sort of theorizing to the degree that they each produce a type of mental content that mind apprehends to be both subjective and objective. This dual character is reflected in how the terms identifying intuition, representation, and thought indicate a type of intentional mental content just as much as a type of mental activity.

In intuiting, mind cognizes immediately what it finds immediately given, apprehending that its intuition is at once a modification of its own mind and a determination of some object it directly confronts. In representing, mind produces images – first recollecting intuitions, then imagining images of its own fabrication, and finally making signs that themselves get recollected by verbal memory. All of these different forms of representation retain a meaning relating them to some object. Once more, theorizing is present to the extent that mind cognizes something real or imaginary, relating what it knows to be the product of its imagination yet representing something else. Finally, in thinking, intelligence employs signs to apprehend universal contents irreducible to any image yet still having reference to a conceivable objectivity. Here theorizing transcends intuition and representation to take the conceptual form providing the psychological activity necessary for undertaking any philosophy of mind.

1.2 Theoretical intelligence as cognition, the certitude of reason

The cognition at hand in intuition, representation, and thought involves rationality because theoretical intelligence always occupies itself with mental contents it knows to be at once subjective and objective. The defining assumption of rationality is that mind is rational insofar as its mental content is at one with what is objective and thereby has a universal validity shared by every other rational mind. Theoretical intelligence counts as rational insofar as what intelligence knows has no other content but mind's own, yet that content equally has objectivity, whose independence no longer comprises something alien. Cognition here overcomes the opposition of consciousness in that the object of intelligence is not fundamentally external to mind or beyond its grasp but is intrinsically related to and in identity with intelligence.[1]

Intelligence can therefore aim at a truth going beyond the *correctness* to which consciousness is confined. Consciousness may have a mental content correctly conforming to the phenomena it confronts. Yet due to the extrinsic relation of subject and object in consciousness, conscious mind cannot certify the independent objectivity of the phenomena and secure a true identity of subjectivity and objectivity.[2] The mental content of consciousness may correspond to the phenomena confronting it, but this cannot insure that the phenomena are genuinely objective and not just what appears to mind. The intrinsic identity of subjective and objective aspects, however, is generic to reason insofar as reason aims at genuine cognition, in which true correspondence, not just *correctness*, is achieved. Nonetheless, by engaging in cognition, where mental modifications are made to conform to objectivity rather than mere phenomena, theoretical intelligence comprises the still *subjective* realization of reason, bringing about correspondence *within* mind rather than in objectivity.[3]

In so doing, theoretical intelligence has reason for its object, apprehending that its intuitions, representations, and thoughts are, as subjective, no less conformable to objectivity. By recognizing this identity of its mental modifications and the objectivity they are about, intelligence has at least the certainty of its own rationality, promising the possibility of cognition. Certainty, however, is not equivalent to truth. The certainty of intelligence is, to begin with, indeterminate, acknowledging intuitively only *that* subject and object coincide, rather than determinately cognizing *what* about the object is rational.[4] The truth of intelligence is thus at the start just as ungrounded as the immediately given intuitions with which intelligence first grasps the identity of subject and object.

It is inevitable that the initial form of intelligence should have this limitation. Rationality may attain its fullest theoretical development in linguistic conceptual intelligence, where mind can obtain conceptual knowledge that its object is thinkable and its concept is objective.[5] Yet to the extent that discursive intelligence depends upon intuition and imagination, intelligence cannot help but have prelinguistic forms in which mind exhibits a more rudimentary rationality restricted to intuitions and images.[6]

These nondiscursive types of intelligence are exhibited wherever learning, as opposed to habituation, first takes place. The psyche is sufficient for habituation to occur, since the repetition of similar feelings and associated behavior automatically engenders habit. Learning, however, requires intelligence, though not initially language or thought.

Individuals can learn without possessing linguistic competence so long as they intuit objects, recollect their intuitions, compare their recollected images, and make connections enabling them to learn objective relationships that are not immediately intuitable. Words and concepts need not enter in, as is evident from the learning that dumb animals and preverbal children accomplish.[7] Nonetheless, intelligence must be at work, for learning requires that a prospective learner apprehend successive representations, recognizing them to be recollections that, however reproduced and associated by imagination, nonetheless impart knowledge of objectivity. In so doing, the learning individual engages in the distinguishing activity of theoretical intelligence, transforming what is given to mind into something mental produced by mind while making what is mental into something objective and true.[8]

1.3 Preliminary differentiation of the stages of theoretical intelligence: intuition, representation, and thought

Theoretical intelligence develops in three stages, which are distinguished by the type of object and mental activity figuring within their respective apprehensions of reason, of mental determinations that are both subjective and objective. These stages comprise intuition, representation, and thought. They have a necessary ordering in virtue of how they are constitutively related. Intuition comes first because it can operate without representation and thought. Insofar as representation depends upon intuition and thought depends upon representation, representation follows upon intuition and thought follows upon representation in both theory and reality.

The development of the stages of intelligence is different in form from the development of the shapes of consciousness. Consciousness relates to mental content as just a determination of an object confronting it. Consequently, the moves, for example, from sense certainty to perception and from perception to understanding appear to consciousness as encounters with different aspects of objectivity independently opposing mind. Sense certainty confronts the immediate being of objects, to which it refers without interpretation or discrimination. Perception addresses objects as things with properties, apprehending sensuous features as belonging to an underlying entity that immediately has them. Understanding confronts objects as dynamically determined, exhibiting a play of forces governed by laws of appearance. By contrast, intelligence relates to its object as something conforming to a mental content that mind has produced. For this reason, the moves from one

type of object to another appear to intelligence as products of mental activity. Whereas consciousness simply confronts things and the forces and laws that govern their dynamic relationships as different given aspects of objectivity, intelligence is well aware that intuitions are results of intuiting, images and signs are products of imagination, and concepts are creations of thinking.[9]

To begin with, intuition immediately takes in a mental content that is immediately about something given. Therefore, intuition is not mediated by any further intelligent activity, although contents deriving from representation and thought can subsequently be intuited by being immediately apprehended.

Representation internalizes intuitions by rendering them images which then get recollected, modified, or rendered symbols or signs of some other meaning. Hence, representation follows upon intuition, without which it cannot exist. In this respect, representation, unlike intuition, relates to its subjective-objective content as something not merely found but mediated by mind.[10]

Thought, for its part, cannot be expressed without language, and language cannot operate unless representation provides images and signs by which sense and meaning can be psychologically realized. Even though thinking eventually dispenses with imagery to develop a purely conceptual content, it can never do this without employing the semiotic and generalized results of representation.

Accordingly, individual minds can possess intuition without representation and thought or possess intuition and representation without thought due to phylogenetic and ontogenetic limitations or congenital handicaps, disease, or injury. Some animal species may be endowed with an intelligence restricted to intuition,[11] while others may have an intelligence limited to intuition and preverbal representation. Alternately, individuals of a species with no such limitations may early in life have only intuitions, then develop representations of different sorts, and only later develop the psychological capacity to think and speak. Or individuals may possess only intuitions or just intuitions and representations due to impairments of their normal species being and maturation potential. Whatever the case, representation will always be accompanied by intuition, just as thought will always be accompanied by intuition and representation.

In order to confirm these relationships and the differentiation they involve, it is necessary to account for the different way stations in the development of intelligence, making sure that each shape has had all its psychological conditions provided for in the antecedent development.

By strictly following this formative developmental order, philosophical psychology can unfold the structural constitution of the different spheres of intelligent mind and thereby certify the completeness of each division in the theory of intelligence. Here, before that development has unfolded, one can provide only a promissory indication of what is to come. In this respect, the following sketch will serve at best to set the stage for a proper investigation of what here is merely an assertion.

First, intuition relates initially to an immediate single object, combining the self-feeling of the psyche with consciousness's sensation of an immediate given. Distinguishing this object from mind's own intuiting by paying attention, intuiting intelligence apprehends the intuited object as something in space and time.

Representation, through recollection, imagination, and verbal memory, relates to an inwardized material, withdrawn from the external givenness of intuition, and thereby reflected into mind's own mental domain. In so doing, intelligence withdraws from the immediate relation in which it confronts the immediate singularity of the object, setting it as an image into a time and space of mind's own making. Through the imagination's successive and contiguous associations of images, mind now is able to relate the object to something universal. The universal in question figures first as an image, then as a generalized representation, and finally as a recollected repeatable sign, in each case still referring to objects as immediately intuited.

Finally, in thought, intelligence has an object that is both subjective and objective,[12] comprising an objectification of reason. In distinction from the objects of intuition and representation, the object of thought confronts intelligence as something thoroughly conceptually determined. To cognize this, its defining object, objective reason, intelligence must conceive the concrete universal nature of the object. The universal that thought thinks to this end is concrete in that it is not just a common mark extracted from various images but a unity that pervades the object, making its differentiations conceivable rather than just intuitable or imaginable. Thereby, thinking intelligence exercises a theorizing cognition whose subjective thought has objectivity and whose object is intrinsically conceptually determined.[13] Although thought does initially reflect upon intuited and imagined contents, it proceeds to overcome its dependence upon pictorial, nondiscursive content. In so doing, intelligence becomes less and less limited by extraneous content given to it and more and more identical with its object.[14] In passing through its several forms, distinguished by how thoroughly the object of thought is exhaustively conceptualizable, thinking intelligence provides the

psychological resources for moving from empirical to philosophical psychology.

1.4 Questions raised by the division of the stages of theoretical intelligence

These anticipatory divisions of theoretical intelligence raise the question of why thought should involve more than representation. This question is particularly acute in light of how most modern philosophies of mind conflate intelligence with consciousness and thereby confine thought to representation. Although representation is properly a mode of intelligence, it becomes privileged by those who identify mind with consciousness. This is so because the opposition of consciousness involves the reference to something given that representation retains by employing images. Images, whether recollected, created by imagination, or used as signs, always relate to intuited content, which brings in some appeal to what is immediately given.

Admittedly, unlike intuition, representation relates its object to a universal, repeatable, *re*-presented content. This relating may be a necessary prerequisite for the development of thought, but it is still distinct from thinking proper, which relies exclusively on concepts. Yet how does the representational relating of objects and universals fail to attain the level of thinking? What distinguishes the universal to which representation relates its object from a full-fledged concept? On the other hand, if thought departs from representation by not relating a universal to an object that falls outside the universal, how can thinking retain objectivity and arrive at truth? Can reason, severed from connection to anything beyond conceptual determination, occupy itself exclusively with thoughts? Can thinking dispense with images, the last residue of representation?

Philosophical psychology must resolve these questions because the psychological road to thought must not be blocked if the philosophy of mind is to be a reality.

2
Intelligence as Intuition

2.1 Intuition as combining feeling and sensation

Intelligence intuits by employing the same immediately given mental content with which the psyche feels and consciousness senses. The psyche feels its own feeling without distinguishing anything objective from its sensibility, whereas consciousness is certain of the being of what it senses without thereby apprehending that sense-certainty is a product of mind. By contrast, intuiting intelligence apprehends the same manifold comprising feeling and sensation but relates to it immediately as both a subjective and an objective determination.

In so doing, intuition unites feeling and sensation, providing mind with an immediate mental content that comprises a determination at once of mind and of something objective opposing the intuiting subject. Feeling becomes sensation when consciousness projects its manifold as a unitary entity from which mind disengages itself. Sensation becomes intuition when mind recognizes this same manifold to be as much a mental modification as an objective phenomenon. Thus, when one feels, one feels one's own feeling as an embodied self; when one senses, one is conscious of the being of some opposing objectivity; and when one intuits, one apprehends that one has a subjective manifold that one is certain of directly conveying something objective.[1]

Are the different senses all equally amenable to serving intuition? Hegel, for one, suggests they are not, due to how differently their modalities of sensing relate to the object sensed. Hegel privileges sight, the most "theoretical" of the senses, as the proper instrument of intuition, because sight senses at a distance without at all undercutting the independent being of the object. Consequently, sight can allegedly offer a manifold that is as much objective as subjective. At the other extreme

stands the most "practical" sense, taste, which cannot sense its object without consuming it, leaving mind at pains to treat its sensation of taste as equally objective and subjective. Nonetheless, as Hegel himself admits, tasting, smelling, and touching all extend over some time during which the object being sensed retains an independent being, at least until the sensing finishes.[2] This abiding endurance enables all these more practical senses to convey the objectivity of the thing they variously alter in the process of sensing it. For this reason, all the sense modalities can serve consciousness in sensing objectivity and serve intelligence in intuiting the world.

The content of intuition, deriving from the full breadth of feeling and sensation, reflects the biosphere, species being, unique genetic endowment, personal history, and mental cultivation pertaining to the individual mind in its entire living embodiment. This does not mean, of course, that intuition is sufficient to comprehend these different factors underlying the intuited manifold, any more than sense-certainty enables consciousness to apprehend adequately *what* it senses to be.

What limits intuitive intelligence is the immediacy of both sides of its awareness. The content of intuition is immediately given, and intuition attends to it equally immediately, taking in its manifold in a purely receptive manner rather than transforming it through mediating subjective operations. The form of intuition is just as simple as the form of feeling and the form of sensation, for intelligence here relates directly to its intuited object without engaging in any more determinate, discriminating activity.[3] Consequently, intuition has no means in its object or in its relating to it with which to categorize what it intuits and to have anything communicable to convey. Intelligence here simply finds itself containing the mental content at one with the given that intelligence finds itself confronting.

The dual subjective-objective character of intuition may exemplify the defining identity of reason, which unites subject and object or thought and being in an objective logos worthy of truth. Intuition exhibits this conformity of subjective and objective determination, however, in only the most formal, empty way. With no mediating comprehension to effect nor any mediation to apprehend, intuiting intelligence has no reasons to offer concerning why its intuition is as it appears. All that confirms intuition is a "gut feeling," which has nothing guaranteeing that it is common to anyone else, despite lame appeals to "our shared intuitions."[4]

Even just describing the intuited manifold is a problem for intuiting intelligence. Intuition, like feeling and sensation, has an inchoate totality

resistant to any discursive explication. Whereas words can never capture all the detail of an image, the challenge is even greater with intuitions, which have yet to undergo the abstractive reductions that representation performs by detaching intuited content from its immediate here and now and re-presenting it as an image. Descriptions and classifications, not to mention lawful explanations and causal accounts, all elude the mute attending of intuition to the brute givenness of its object.

Owing to the unmediated character of intuition's grasp, intuiting would seem restricted to what is most local, proximate, and individual. Insofar as intuition directly relates to what it is about, intuition can avail of no means to extend its reach. Like sensation, intuition lays hold of what is here and now, either in the external world given to the senses or in the given inner life of the individual psyche. Recollected images can extend as far into the past and as far afield as memory permits, whereas productive imagination can concoct images set in any place and any past or future time. Intuition, lacking the freedom of representation, is rooted to what it finds immediately given.

Still, the immediacy of intuition carries with it a formality that leaves open what may be intuited. Wherever and whenever intuiting occurs, the only restriction applying to it is that it attend to what is immediately at hand, externally or inwardly. Any mental content can be intuited provided it is addressed directly and treated as both subjective and objective. What is divine or mathematical can just as much be an object of intuition as the most mundane things.

If this latitude extends the range of intuition, the indiscriminate plenitude of every intuition might seem to confer special authority to its cognition. Just as sense-certainty seems to be the richest and truest shape of consciousness, containing the whole manifold of feeling without abstracting from any of it, so intuition appears to be the most concrete intelligence.[5] Whereas representation and thought progressively winnow out the endless detail of intuition, the intuiting mind seems to attend directly to the complete reality of phenomena, with a mental product correspondingly replete.

Intuition's riot of detail is, however, too much and too close to handle, for just as sense-certainty is incapable of indicating *what* it knows to confront consciousness, so intuiting intelligence has no way of penetrating the given surd it apprehends. Lacking any mediating instruments to distinguish its content with respect to any condition or category, intuitive cognition is powerless to provide any clarification or justification of its immediate insight. Intuiting intelligence may point with certainty to what it intuits, but further explanation lies beyond

its grasp. The truth of intuition is the most minimal there can be, for all it affirms is the groundless conformity of a subjective and objective content otherwise devoid of additional characterization. With no mediations to provide universal connections and communicability, the feeling of intuition is subjective and private, leaving its object entirely contingent, with regard to both its nature and its value.[6]

For these reasons, intuition can at most comprise the bare start of cognition, the inarticulate wonder with which intelligence first finds itself in the objects it confronts, certain of uncovering the identity of subject and object in which truth resides. Limited by the irrational form of the immediacy of its mental content and of the given it intuits, intuition begins with an entirely undiscriminated, unexplicated subject matter, whose inessential accidents have yet to be distinguished through the labors of nonintuitive, discursive intelligence.[7]

Consequently, any enlistment of intuition by philosophy to secure knowledge of first principles is a self-defeating maneuver. First principles may not be knowable by mediated cognition without forfeiting their putative primacy, but all recourse to intuition can achieve is to display the unfounded character of the intuited principle, leaving the latter's authority just as questionable as any competing intuition. What this predicament indicates is the hopelessness of any philosophical appeal not just to intuition but to first principles in general.

2.2 Intuition and intuiting as basic to intelligence

It should be no surprise that intuition is just as basic to intelligence as feeling is to the psyche and sensation of objectivity is to consciousness. Intuition is the minimal shape of intelligence because it realizes without further qualification that combination of psyche and consciousness, that apprehension of the identity of subjectivity and objectivity, that awareness of rationality distinguishing intelligence as an integral yet consummating shape of mind. What will confirm the primary character of intuition is how the further forms of intelligence, representation and thought, presuppose and incorporate intuitive intelligence in their own processes. This can be adequately established only in the course of systematically developing their specific mental activities, a task lying beyond the treatment of intuition.

Although few modern thinkers distinguish intelligence from consciousness, most recognize that intuition is basic to the forms of mental life that properly belong to intelligence. They generally acknowledge that representations and concepts both depend upon intuition and that the

mental operations employing representations and concepts must do so as well.

Locke, for example, regards intuition to be primary to any awareness of mental content that can figure as an instrument of knowledge. To have in mind any identifiable term depends upon intuition, for any mediated awareness must apprehend whatever factor serves to mediate something else, and that mediating factor must be taken in directly by itself, that is, via the immediate awareness of intuition. Accordingly, Locke maintains that difference and sameness must be directly intuitable, since otherwise no determinate content could ever be apprehended.[8] Similarly, he observes, intuition underlies any demonstration, since even though inference arrives at conclusions owing their derivation from antecedent premises, each of these mediating terms of proof must be apprehended immediately, that is, by intuition, or else be derivable from other terms that ultimately rest on some nonderived presuppositions that must be intuited.[9]

Although Locke correctly acknowledges that intuition must be at work whenever intelligence contends with different and similar mental contents, including the premises of demonstration, he fails to recognize that intuiting cannot alone discriminate the contents it makes available to representation and thought.[10] Just as feeling and sensation present but cannot differentiate their manifold, so intuition cannot itself relate different intuited contents so as to allow mind to qualify the similarities and differences these contain. For that to occur, intelligence must employ imagination and associate recollected images and current intuitions. Logically speaking, determinate determinacy depends upon the contrastive relation of something and other. This relation can be apprehended only in the subjective-objective manner of intelligence if mind not just intuits but contrasts intuited contents retrieved from the same recesses of mind that psyche and consciousness access in habituation and perception. As Hume observes, these contrastive associations may themselves be directly apprehended without involving the mediation of demonstration. Yet to say that this places these *relations* "under the province of intuition"[11] is to ignore how they depend upon the *relating* of imagination and representation.

Kant, for his part, takes intuition to be basic to consciousness, characterizing it as the mental content in direct connection to what it is about, in contrast to concepts, which relate indirectly to objects by way of intuitions.[12] Owing to this direct connection between intuition and object, Kant characterizes intuitions as individual, in contrast to concepts, which are universal by each relating to a plurality of objects

through the intuitions that directly convey those objects to mind. Kant further regards intuitions as totalities,[13] containing everything about what falls within them, in contrast to concepts, which only designate some mark common to a plurality of objects whose other distinguishing features fall outside the concept they share.

While duly acknowledging the individuality and totality ingredient in the concrete character of intuition, Kant fails to note that mind becomes aware of its sensations as intuitions only when it relates to them both as its own mental contents and as determinations of objects. Properly speaking, sensible intuitions are matters of intelligence rather than the material of consciousness. Moreover, although conceptualization is dependent upon intuition, only intelligence apprehends concepts as such, as well as in their psychological realization as a specific type of mental content. Consciousness may confront objects that exhibit conceptual determinations, but mind does not apprehend the latter as also products of mind until it operates as intelligence. Only then can mind become discursive and engage in the logical thought that conceives the concept as such in contrast to the concept as psychologically realized in the thinking of living subjects. For this reason, intuition is not basic to consciousness per se, as Kant suggests, but only to consciousness accompanied by intelligence.

Intuition may provide the most basic cognition, on which all representation and thought psychologically rest, but intuiting can hardly be the acme of intelligence, especially if intelligence is to be an object of empirical or philosophical investigation.[14] Any inquiry must go beyond the mute assurances of intuition and represent and conceive. Intuition nonetheless provides an ingredient material as well as a stepping-stone to representation and thought. Intelligence engages in representation on the basis of intuition, which provides the immediate subjective-objective content to be re-presented as image. This gives intelligence the resources for generating signs and then employing signs to think.

As we shall see, the road from intuition to thinking proceeds in two stages: the first, in which intelligence transforms intuition into representation, and the second, in which representation develops from image to sign to thought. Before representation can emerge, however, intelligence must develop intuitive attention and the intuition of space and time.

2.3 Intuitive attention

A key development in the life of the psyche is the emergence of habit, where mind's own act of feeling alters how mind subsequently feels

similar sentiments and the activities that accompany them. By acquiring mental dispositions through repeated acts of similar feeling, the psyche develops a generalized sensitivity and the capability of disengaging itself from immersion in its own feelings. This gives mind the capacity to focus on other things while letting its feelings and activities proceed in the background of mental life.

Attention thereby becomes present in the psyche and then in consciousness, allowing mind to selectively focus upon the feelings and then the sensations, perceptions, and understandings that these forms of mental life involve. Similarly, intelligence must come to extract itself from its immediate receptivity to intuition if mind is to be able to attend to other intelligent tasks, such as the functions of imagination that representation develops or the functions of reason that thinking realizes. Intelligence must first employ attention in reference to its intuitions, insofar as these underlie the representations and thoughts to which mind may thereupon attend.[15]

This imperative is realized in intuitive attention as soon as intelligence exercises the power of focusing upon some aspects of what the totality of intuition provides. In so doing, intuitive attention does something anticipated by consciousness when it groups together and differentiates features of the manifold of sensation to perceive things and their sensible properties. What intuitive attention adds is cognizance of mind's own act of attending, whereby intelligence recognizes the relating of its own cognition to be in accord with the relations within the objectivity it confronts.

Here attention fixes the object of intuition, distinguishing it both from other intuited aspects of the manifold and from intelligence itself. By first removing itself from direct immersion in the object and then restoring its unity with it through the focus of attention, attentive intelligence sets the stage for any theoretical apprehension of an object.[16] To theorize, mind must recognize its mental determination to be something it has generated to grasp the object of theory. Intuitive attention provides the basic mental movement enabling mind to direct its apprehension to what it confronts and make itself present therein.[17]

Moreover, to the degree that attention involves mind's ability to focus upon different contents in the field of awareness, it allows intelligence to withdraw its intuiting from any specific intuition and bring it to bear elsewhere. Whichever intuition gets attended to remains both subjective and objective, comprising a mental content as well as something given to mind. Still, intuiting intelligence obtains a detached universality by making its union with any intuited given a product of mind's concerted

activity, an activity that functions in the same manner with each and every intuition. Intuiting intelligence thereby gives itself an abstractly identical direction, operative with respect to any content upon which it focuses.[18]

The autonomy of intuitive attention, however, is wholly nominal,[19] for intelligence here generates no content of its own but remains bound to the same immediate material of feeling and sensation, which always refers to single inner or outer factors. Focusing attention from one intuition to another does not alter any nor enable intelligence to address any alternative to what immediately figures in its intuitions.

In this respect, intuitive attention exhibits in a theoretical way the same arbitrariness as choice, the volition that is free to select among given alternatives without generating any ends of its own. Like choice, intuitive attention has no contents to which it is intrinsically connected. Instead, intuitive attention is at liberty to focus upon any and every intuitable object and then turn to something else. In each case, intuitive attention unites its gaze with its chosen object while ignoring everything else.[20]

In so doing, intuitive attention can focus on internal just as well as external sensations. Either way, intelligence disengages itself from the immediate hold of its intuitions, reuniting with them only in function of its act of attention. Attention thus puts inner feelings at a distance, rendering them something confronting mind through its own caprice, loosening their direct grip upon the individual.[21] Because attention focuses upon some particular feeling with an arbitrariness that can just as well be directed elsewhere, intelligence can extricate itself from internal sensations without having to wait for the repetitions that habit formation needs to enable the psyche to become acclimated to its feelings. Of course, if internal feelings reach an uncontrollable intensity, intelligence cannot escape attending to them.

Similarly, intuitive attention enables intelligence to begin detaching itself from external sensations. This detachment may be limited by the intensity and persistence of external intuitions as well as by how the different sense modalities obtain their impressions.[22] Mind can ordinarily distract itself from what it currently sees, hears, smells, tastes, or feels and focus upon the sensation of a different sense or upon some inner feeling. This distraction is most easily maintained when the intuited objects disappear from the field of intuition. Attention can still direct itself in other directions, however, even when ignored objects persist and reintrude upon sensation. How this occurs rests to some degree upon the different ways in which the senses operate. Senses that require

direct contact with what is sensed, such as touch and taste, depend in whole or part upon the movement of the individual to determine which objects will be sensed. Other senses that perceive at a distance may not require direct action upon their object but still depend upon the orientation and control of the individual to intuit remotely. Eyes, for example, will see little unless they are turned towards the visible, eyelids are kept open, and the eye lens focuses appropriately. Sounds and smells may force themselves upon their respective senses more indiscriminately, but the individual can still diminish or eliminate their impact by covering ears and nose or changing position. Nonetheless, even when the individual orients and controls its sense organs so as not to impede remote perception, intelligence can still draw its attention away. The arbitrariness of intuitive attention remains in force so long as the external intuitions are not so intense as to overwhelm the theoretical disengagement of the individual and reduce sensations to feelings of pain or disgust.

Although intuitive attention does not transform any of the intuitions to which it turns, intuitive attention paves the way for representation by opening up the mental space within which intelligence can attend to its intuitions and relate them to one another. In order for representation to occur, however, intelligence must not just attend to and associate its intuitions but attend specifically to their temporality. Without the ability to distinguish past and present mental contents, intelligence cannot take the first step of representation, consisting in recollecting *past* intuitions and thereby producing *currently* imagined images.

Intuitive attention provides a necessary prerequisite for the needed intuition of space and time. Attention does so by withdrawing intelligence from direct immersion in its object and setting that object apart from the very mind whose content it shares. Being withheld from attention is tantamount to being nothing for intuition. Hence, the object whose existence now gets separated from being intuited has a negative standing. This negative standing, however, does not consist in just being other to mind, in the manner in which the object of consciousness opposes the disengaged standpoint of the ego. Because intuition is both subjective and objective, the negative standing consists in the unattended object figuring as the nonbeing, the abstract other of *itself*.[23] To be abstractly other to itself is to be self-external, for no other factor is thereby distinguished from it, as would be the case if the "nonbeing" of the object were a concrete other. Attention does not supply any new content, however, but only alters the form in which the object is given for intuition.

Intelligence here renders the object it intuits something that has the form of falling outside its own self. This self-externality is in the first instance space, whose every point has another beyond it, forming a line, which being bounded by other lines, gives rise to a plane, which, having other planes beside it and beside one another, generates three-dimensional space. The self-externality of space transcends its own domain, however, in virtue of the totality of space being outside itself in the succession of different moments in time, each of which encompasses the totality of coexisting space. Hence, intuitive attention projects the object of intuition into space and time without otherwise transforming it.

This projection involves more than mind simply confronting the object as an other, which consciousness constitutively does. The object of consciousness is a "relative other," always related to the conscious awareness it opposes.[24] In this correlation, the object is external to consciousness but not thereby external to itself, intrinsically extending beyond and beside its own boundary.[25] Due to the externality of the object to consciousness, the object's relation to consciousness cannot be what consciousness is conscious of as its object. Consciousness always confronts its object, but in so doing, it does not thereby confront its own confrontation. Intuiting intelligence, by contrast, is aware of both its mental act of intuiting and the intuited object, as well as their identity in content. Consequently, the object of intuition is not just other to the mind it confronts. The intuited object is explicitly external to the inwardness of mind that intuitive attention detaches from it while retaining the identity of content of what is subjective and objective. Thanks to this formal disengagement within the subject-object unity of intuition, which maintains the identity of the object's nature and mental content, the object of intuition becomes external to what is essentially its own self. The intuited object accordingly becomes self-external. It does so in an abstractly universal manner since intuitive attention detaches itself and reunites with each intuited object in the same way, completely indifferent to the object's specific content. This abstractly universal self-externality is the form of space and time. This form applies to every object with the same combination of discreteness and continuity, whereby points in space and moments in time pass over into others insofar as nothing holds them apart. The objects of intuition are thereby spatial-temporal.[26] Since intuition, in attending to its object, remains subjective as well as objective, mind thereby intuits space and time as forms of its intuiting.

This does not comprise a Kantian transcendental ideality, according to which space and time are *only* subjective forms of intuition, lacking

independent objective reality. Since intuition is both subjective and objective, the subjective forms of space and time have as their counterpart the objective spatial-temporality of the objects of intuition. That objectivity is no mere empirical reality, such as Kant ascribes to the spatial-temporality of *appearances*, while denying spatial-temporality to things in themselves, including, most paradoxically, the knowing and acting subject in itself. Space and time cannot be limited just to what appears to consciousness, for mind could not have its constitutive spatial-temporal embodied being unless space and time have an independent reality underlying (rather than constituted by) conscious awareness.

2.4 Intuition of space and time

By intuiting what it finds given, intelligence encounters things dynamically related in space and time. Given the dual immediacy of intuiting, however, intelligence does not thereby intuit space and time themselves. This is due to the same limitation that leaves sense-certainty conscious of the existence of what is here and now but unable to identify this location and moment in any determinate way. Because sense-certainty only apprehends the being of what it confronts, it has no means of distinguishing that being from any other. Doing so minimally requires comparing something and other, which involves a mediating apprehension rather than the immediate taking in of sense-certainty. Similarly, the immediacy of intuition prevents intelligence from directly intuiting determinate spatial-temporal relations. Intuition apprehends the same manifold sensed by consciousness, adding only an immediate awareness that its mental content is both its own subjective modification and a determination of what is. That addition offers nothing with which to pin down space and time in any determinate fashion.

Instead, intelligence must be able to turn its attention away from immediate immersion in its contact with some single object here and now and intuit the externality of the object, both with regard to its juxtaposition among other things and from one moment to the next. Attention provides the basis for apprehending this externality of the intuited object with respect to its own spatial and temporal extension as well as its spatial-temporal relations to other things. Intuitive attention does so by separating intelligence from the object it intuits and giving mind the latitude to fix its gaze here or elsewhere, now or then. Because intuition involves a content that is both subjective and objective, the separation of the object from the act of intuiting wrought by attention renders the object external to what is itself. This self-externality of the

intuited object is, as we have seen, the basic form of spatial and then temporal being.[27]

2.4.1 Why intuited space must be Euclidean

Intuition might appear to allow for three-dimensional Euclidean space as well as infinitely manifold versions of non-Euclidean space, distinguished by varying curvatures of their coordinate axes. These spatial alternatives would also have implications for the intuition of time, since determinate apprehension of time depends upon intuition of the motion of material objects, whose paths would vary according to whether space was Euclidean or non-Euclidean in form.

These options of spatial intuition are more imaginary than real, however, because of the unique character possessed by Euclidean space. In Euclidean space, when two- or three-dimensional figures change in size, their shape remains the same. That is, Euclidean space is completely "scalable," allowing spatial intuitions to be projected to any size without distortion while leaving shape devoid of significance as an indicator of size. By contrast, due to the curvature of the axes of all non-Euclidean forms of space, the enlargement of any spatial figure alters its shape by narrowing the angles of its vertexes or the arcs of its curves. The smaller the figure and the smaller its enlargement, the less its transformation will deviate from projections in Euclidean space. Nonetheless, any constancy in shape with change in size is precluded so long as straight Euclidean axes are replaced by non-Euclidean curves.

As Eva Brann has argued, these differences have fatal implications for both the intuition of objects within any dynamic field of experience and the re-presentation of intuitions as recollected images.[28] Only in Euclidean space can objects retain a recognizable shape as their distance to the perceiving subject alters. Only in Euclidean space can the projection of images on the retina facilitate vision of objects that resemble those images despite the discrepancy in scale. Only in Euclidean space can re-presentations of intuitions in the "inner space" of imagination allow those images to retain an abiding recognizable shape no matter how far away and how large their objects be imagined to be. Moreover, any attempt to construct non-Euclidean space always depends upon a Euclidean framework within which to imagine the non-Euclidean curved axes, since otherwise their very own curvature would not be constant with any model one employs.

For these reasons, non-Euclidean space is not an option for an intelligence that intuits, imagines, and conceives objects with any abiding spatial-temporal character.

2.5 The intuition of space and time as a presupposition of representation

The intuition of space and time involves awareness of space and time as well as of the forms of intuition of space and time. Both are crucial for representation, for without any intuition of space and time as both objective and subjective, mind has no way of distinguishing images from intuitions. This is so because images are, in the first instance, re-presented intuitions; that is, recollections. They can count as such only if they are apprehended to be present representations of something whose intuition took place in the past. This requires that mind place and date its own intuiting of objects in time and space, as well as apprehend those objects' own locations in space and time.[29]

Apprehension of time and space is decisive because neither any qualitative nor any quantitative determination of a mental content can necessarily distinguish whether it is a represented rather than an intuited manifold. Even though representation removes the given content of intuition from its immediacy and places it in mind's own inner realm of the imagined, this does not necessitate any difference in quality or intensity nor present any other trustworthy "material" criteria for distinguishing image from intuition. An image may have the detached isolation that representation provides by re-presenting an intuited manifold in the mental realm of memory and imagination, where it is separated from all other entanglements of the encompassing here and now in which it is originally apprehended. That detachment, however, is not immediately evident. It becomes obvious only when the connections between that manifold and other mental contents reveal the active role of imagining intelligence rather than the passive receptivity of intuition.

What does suffice for distinguishing representation from intuition is the recognition that representations, to begin with, recollect *past* intuitions in *present* recollection. This recognition requires intuition of the relation of determinate times, of the past and present of the respective representation and intuition. Intuition of determinate temporal relations itself requires intuition of determinate spatial relations. In and of themselves, all points in time and in space are indistinguishable. Every present moment lies between past and future, arising from a future that has slipped into the present and just as immediately reverts to the past. Similarly every spatial point has other points outside it, all with other points outside them in just the same manner. What alone serves to individuate moments and places is the presence or absence of matter, which reveals its occupation of space by exerting force, perceivably expressed

in motion. For this reason, recognition of determinate times requires intuition of determinate places, which involves apprehension of the dynamic relations of bodies in space-time. Accordingly, in order for mind to have representations in distinction from intuitions, mind must be a living individual experiencing its own specific spatial-temporal itinerary through its biosphere, therewith apprehending when and where it has and had different intuitions and representations. Otherwise, mind cannot "date" its own mental contents and distinguish recollection from intuition.[30]

This applies equally to any encounter of the "past" in present intuitions. The past might appear to be directly intuitable due to the temporal lag of the transmission of sound or light and of perception at a distance in general. The intervening interval of remote sensing insures that such intuitions always convey preceding happenings. This seemingly direct peering into the past takes its most extreme form in astronomical observation, which intuits in the present astrophysical events transpiring light years away in the most distant past. To apprehend, however, that any such intuition conveys past occurrences depends upon prior observations of motion (e.g., as facilitated by the Doppler effect) to establish that the source of observed light is something far, far away. The same holds for comprehending any presently intuited sound, such as thunder, to signal an event both distant and in the past. In every case, the present intuition can convey the past only by way of an apprehension of movement, supplied by recollection of other images, which mind must recognize to re-present past intuitions.

This might appear to present a vicious circularity. In order to represent images, intelligence must apprehend determinate spatial-temporal relations. To apprehend any movement determinately indicating passage of time, however, mind must associate past and present intuitions, relying upon the power to represent that itself depends upon awareness of temporality. This difficulty could be overcome in two ways. On the one hand, the apprehension of temporality and representation would have to be coeval, so that representation, involving both image production and association of past with present intuitions, comprises the spatial-temporal awareness it itself requires. On the other hand, intuitive attention would have to be sufficient to provide spatial-temporal awareness without recollection, thereby making representation possible.

What makes the latter option possible is the objectivity of space and time. When intuitive attention focuses upon one intuition and then upon something else, these acts of intelligence necessarily occur in the mind of a spatial-temporally situated living individual, whose every

mental activity is objectively dated and located according to the itinerary of its embodied self. Even though each act of intuitive attention just focuses on one intuition, placing it in the form of self-externality without further determining its time and place, the objective spatial-temporal relationships in which this proceeds themselves connect the mental acts and objects of each focus of intuitive attention. In order for intelligence to apprehend these spatial-temporal relationships, mind must engage in the activity of associating intuitions of different times and places and recognizing their determinate connections. This is itself the minimal activity of representation, which first imagines an image precisely by relating current with past intuitions and keeping in mind the past intuited content through the abiding attention of recollection.

2.6 From intuition to representation

Although intuitive attention directs its focus upon one given object or another, each individually situated in space and time, intelligence thereby encounters its own embodied activity, likewise placed and dated. In being aware of the formal activity of intuitive attending, intelligence is no longer directly dependent upon finding some given content to fill itself. Instead, intelligence can turn to itself as a source of content, albeit mediated by intuition.[31] Being aware of its own attentive activity, intelligence finds itself in what it intuits, rendering intuition something intelligence apprehends to be within mind and thereby something inwardized. That is, through attention and the intuition of space and time, intelligence takes possession of its intuitions. No longer just intuiting but rather *having* intuitions, which are mediated by intelligence's act of attending to them, mind gives them an ideal, mental presence. The intuited content has lost its immediate givenness, but it has not vanished. Instead, the intuited content is present as mediated by intelligence. This mediation places that content in a mental space and time beyond the here and now, distinguishing it from whatever immediate intuition is here and now. Thereby the mediated content is a re-presentation of what was given. As such, it is not something that mind had but no longer possesses. Rather, the representation renders that content something intelligence still has, present in its field of re-presentation.[32]

Representation is thus intrinsically related to intuition. To begin with, representation and intuition have in common the subject-object identity defining intelligence. Like intuition, representation refers to an object distinct from mind yet containing the same determination

as mind's own. In intuition, this unity of the object with mind is implicit only to the extent that the object has an immediately given determination that intelligence finds within its intuition, independent of any content-determining activity on its part. This primacy of objective content remains true even when intuitive attention decides upon which object to focus, for the act of attending to intuitions does not alter them in any way. Representation removes the predominance of given objective content by generating images that relate to and distinguish themselves from intuitions.[33] In their distinction from intuitions, these images are manifestly products of intelligence, exercising the power of re-presenting intuitions. This is, minimally speaking, imagination. Representation, wielding imagination, puts intelligence in the position of recognizing that the objectivity of its representations is tied to a content generated by mind on its own.

Nevertheless, representation remains related to intuition, for the content produced by imagination is never completely devoid of some tie to prior intuitions. This tie is most pronounced in the basic form of representation, recollection, which generates images by taking the given content of intuitions and reproducing that in the mental space of imagination. Although this does not generate new content, it does abstract away some of the detail of intuition insofar as the recollected intuition is disengaged from its encompassing manifold, removing all those features that reflect other coexisting factors. The further development of representation will consist in how intelligence progressively modifies the form and content of what is represented until the threshold of thought is reached.

3
Intelligence as Representation

3.1 From intuition to image

The development of intelligence from intuition to representation resembles the progression of the psyche to consciousness.[1] Intuition provides a mental prerequisite for representation, just as feeling makes possible habituation and conscious sensation provides the mental precondition for perception and understanding. Unlike these psychologically prior developments, however, the stages of intelligence emerge for mind as transformations wrought by mind's own activity.[2] Because intelligence is always aware of its mental content as both subjective and objective, every alteration of its object passes before mind as something connected to a subjective mental movement.

The rise of representation from intuition exhibits this recognition from the very start. What separates representation from intuitive intelligence is the transformation of the immediate presence of intuition into a mediated mental product comprising the image. The image is the basic form of representation, building the mental content on which all further representing depends. Mind cannot behold any mental content as an image without recognizing that it is produced by mind in relation to and distinction from intuition. Otherwise, intelligence has no way of being certain of anything more than another intuition. Degrees of vivacity, clarity, or distinctness are insufficient to ensure that intelligence is apprehending an image rather than an intuition. This is so because what first brings mind beyond intuition to representation is a transformation not of content but of form.[3]

Intelligence moves from intuition to image by "internalizing" an intuition and recognizing the mental content it thereby appropriates to be something it has "internalized." The internalization comprises

an imagining of an image. This minimally consists in intelligence re-presenting to itself a previously intuited intuition, recognizing that the content of that intuition has been severed from its immediate relation to its object and placed within the mental realm of imagination, whose unity now provides the universal connection of all internalized mental content.[4] That unitary realm contains images rather than intuitions insofar as mind recognizes these mental contents to be products and property of its intelligence. This does not require attributing any aspect of the content of the images to the positive creativity of intelligence. Rather, all that need be apprehended is that mind mediates the content by taking possession of it without doing anything more than re-presenting the same content originally given in intuition. Since what content the image has is determined independently of the unity of intelligence, the image belongs to intelligence in a formal way.[5]

Intelligence may subsequently produce images whose content is not just appropriated but partly or wholly generated by mind. Nonetheless, all further engagements of imagination involve this minimal transformation whereby the mental content of intelligence becomes a possession of mind, without further qualification. For this reason, the wholly formal re-presentation of intuited content is presupposed by and incorporated in every subsequent development of representation, no matter how much imagery becomes stylized, symbolically concentrated on essentials, and increasingly emancipated from the literal.[6]

Accordingly, the basic form of representation consists in a reproductive imagination. This primary imagining is reproductive rather than productive in that it merely severs the content of intuition from its immediate connection to its object by placing that content in mind's own mental arena, rendering it a re-presentation. To begin with, this severance has a purely formal character in that it does not productively modify the content of the intuition it has transformed into an image. Reproductive imagination does not add anything new to the content of the intuition it re-presents. Nevertheless, the mere act of re-presenting an intuited content gives the image a manifest character of its own due to the negative aspects of representation's removal of the immediacy of intuition. Although nothing positive is introduced, re-presentation does involve an abstraction from or taking away of certain features of the content as originally intuited.[7]

Generally, the severance of re-presentation separates the retained content of intuition from its original entanglement in the totality of the intuited manifold from which intelligence has extricated it. Minimally speaking, this involves extrication from the time and place of the original

intuition. This initially comprises nothing more than the negation of the specific location of the original intuition, leaving the image in an indeterminately universal space and universal time. What supplants this indeterminate universality with some specific imagined location is the addition of associated imagery sufficient to provide a concretely imagined time and place. Whereas an image can be imagined anywhere at any moment, no matter how remote the imagining individual may be from the original intuition's object, an image can be imagined to be about something situated at any time and in any space that imagination can concretely depict.[8]

Since, however, the specificity of a time and place resides in the concrete interactions of the objects that inhabit that location, representation's initial extrication from any here and now has very material ramifications for the content of the resulting image. These reflect how the originally intuited content undergoes an abstraction from the dynamic interrelationships of its given context. This occurs through the twofold act where intuitive attention first focuses upon some particular intuition to re-present and then intelligence imagines it; that is, re-presents it apart from what representing intelligence ignores. This abstraction retains the found content of the intuition that representation focuses upon and disengages, but it necessarily discards whatever features of that intuition are bound up with the background left behind.

These transformations are crucial for enabling an image to count as any sort of semblance or imitation of the intuition it re-presents or, for that matter, of the object of that intuition. In the *Sophist* (240b–c), Plato grappled with the distinctive character of the image, describing it as "a composite of Being and Nonbeing," insofar as an image only *is* a likeness if it is also *not* its original.[9] Although Plato addresses the relation of the image to the intuited object rather than to its intuition, he duly highlights the dual aspects of the problem. The image can be manifestly not its original and only a likeness or re-presentation of its content due to the two sides of the internalization that intuition undergoes to yield an image. On the one hand, mental content is apprehended by intelligence as an image only insofar as it gets recognized to be mind's own product and possession rather than something merely found directly connected to its object. On the other hand, the image displays its mediated form through the absence of encompassing causal entanglements and those features tied to them. The likeness of the image to the intuition from which it derives is maintained by the retention of whichever part of the manifold content that intuitive attention has kept for re-presentation.

This recollected portion of the original manifold can be just as clear and fresh as what it selectively reproduces. Nonetheless, because the resulting image gains its relative imperishability by jettisoning the encompassing detail that encumbered its original immediacy, recollection does obscure and obliterate much of the blooming, buzzing actuality giving intuition its vivid fleeting presence.[10]

Although the image suffers this diminution as the cost of being mind's own product, the image does not itself present or represent the relation between itself and the original intuited content it imagines.[11] This constitutive relating of representation is apprehended by and within intelligence because intelligence, unlike consciousness, is aware of both what it intuits, represents, or thinks and the subjective apprehension it thereby exercises. Any attempt to characterize the image in isolation from this reflexive activity of intelligence cannot possibly capture its distinguishing re-presentation of intuited content.

Through the process by which an intuition gets re-presented, the resultant image loses direct connection to any objective interaction producing it as an effect. Whereas the original intuition is in immediate relation to its object in virtue of all the concrete interactions of the individual's embodied being with the encompassing biosphere, the internalization of re-presentation sets the image free of all the causal entanglements of the object and the intuiting individual together conditioning intuition. The loss of these entanglements, however, is a gain for the autonomy of intelligence. By being extricated from any objective causality, the image manifestly enters the subjective domain of intelligence. Removed from the worldly forces that intuition reflects,[12] the represented image is now subject to all the formal manipulations that reproductive imagination can perform without yet introducing the positive alterations of content involving productive imagination. Detached from any actual presence of the object of the original intuition, the image is free to be recollected not only by itself but in locations and times of imagination's choosing.[13] In and of itself, the image is unsituated and awaiting transport by intelligence, whose attention determines when and where the image will be located by and in imagination.[14] Intelligence can now reproduce images in arrangements and sequences of its own fabrication, as well as focus its attention upon parts of images, reproducing those while omitting the others.

Moreover, the production of images opens up a whole new arena for practical intelligence.[15] Aristotle anticipates this in contrasting animal and human appetite in *Movements of Animals*. There he notes that animals unable to imagine are restricted to appetites dictated by instinct

in immediate response to internal feelings or intuitions of singular objects. In humans or, more generally, individuals endowed with representation, "imagination prepares desire" (*Movements of Animals*, 702 a19), freeing appetites from instinctual limitations. Now images, recollected or productively created, can foster desires above and beyond any natural dispositions, motivating conduct that pursues genuinely conventional ends.

Further, once intelligence gives itself images, either limited to recollections re-presenting prior intuitions or involving novel creations of productive imagination, the embodied individual can countenance externalizing these images, producing tangible things intended to be representations recognizable as such by others.[16] This may require more than just the ability to produce images, for generally recognizable representations must have a common character that individuals can produce and recognize only if they possess a sufficiently communicative intelligence.[17] What development makes all this possible remains to be seen.

3.2 Recollection or reproductive imagination

All the possible engagements of reproductive imagination rest upon the primary re-presentation in which recollection consists. What, however, elicits this original re-presentation, where some given intuition becomes internally reproduced by intelligence? Intuitive attention and the *intuition* of time and space may provide necessary prerequisites for reproductive imagination, but neither itself comprises the image making of recollection.

Something more is required, which, whatever it may be, must overcome a looming vicious circularity. Although recollection rests upon a prior intuition that, as antecedent, can be dated, the very intuition of time seems already to involve reproductive imagination. How else can there be awareness of an enduring spatially existing backdrop that makes possible experiencing the continuity of one moment to the next? As Kant shows, without awareness of something persisting in space, mind has only different mental contents, with nothing to bridge their occurrences and set them in the continuity of a temporal succession.[18] Such awareness seems to require an ongoing recollection of a spatial backdrop's existence at sequential times, as well as the synthesizing recognition that each such recalled image refers to the same enduring spatial substance that continues to be intuited at every current moment.

Moreover, having any determinate intuition of space and time requires not just awareness of a persisting spatial backdrop but something on

which any experience of persistence depends; namely, awareness of the movement of material things.[19] Without apprehending dynamic relations of matter in motion, there is no way for anything spatial to have a perceivable endurance. A completely static material world, lacking even the perceivable biorhythms and motility of embodied intelligence, has nothing about it to distinguish its existence from an instantaneous moment that is no more present than absent. For movement to be perceived, however, time and space in general must already be given, since otherwise change in location from one moment to another can neither occur nor be apprehended. Time and space can be given apart from motion in the purely formal manner in which the intuition of time and space immediately apprehends the here and now, without yet determinately distinguishing this here and now from any other. Consequently, the intuition of space and time in general does not and cannot already involve recollection, whereas the apprehension of determinate times and places does involve intuitive attention and recollection to contrast and relate different moments and locations.[20]

Once intelligence recollects, however, a contrast opens up between time in intuition and time in representation. This contrast is not external to intelligence but something for mind insofar as representation is always accompanied by intuition. The conjunction of representation and intuition enables intuiting to extend over a determinate period but one whose duration reflects how, in intuition, intelligence is immersed in immediately taking in the object. During this extended intuitive contemplation of the given, time seems to stand still so long as the intuited object presents a relatively immobile monotony. By contrast, if intuited objects are continually changing, time flies by. Although apprehension of duration in both cases requires the contribution of recollection, intuition's immersion in the given object lends time and the motions that give its measure a predominantly objective character. By contrast, when intelligence reproduces and then associates images in the arena of imagination, time transpires according to the subjective operations of intelligence. The more mind recalls and associates images, the more imagined happenings there are over which subjective time extends, whereas the more inactive is imagination, the fewer subjectively engendered moments there are to apprehend.[21]

If the different apprehensions of time in intuition and representation remove the problem of circularity, what first brings intuitive intelligence to internalize its mental content and re-present it as an image? The answer to this question reflects the same type of psychological situation encountered when the psyche first determines its own feeling in

virtue of its past feelings. The psyche initially feels its feelings as immediately given modifications of its embodied sentient self, just as intuiting intelligence first intuits intuitions as direct manifestations of the corresponding presence of the intuited object. Because the psyche does nothing but feel its sentiments to begin with, it has no way of mentally modifying its own sentience except through that act of feeling. Given the immediacy of feeling, however, the psyche cannot discriminate among its feelings and alter their quality. The only way in which the psyche can have feelings manifesting their mediation by the feeling activity of the psyche is by altering the form of their reception. The only available way of accomplishing this it to render feelings mediated by the psyche such that this mediation is manifest independently of any qualitative differentiation. This is achieved by the psyche becoming disengaged from immediate immersion in its feelings without otherwise altering them. Since all feelings are immediate and undifferentiated by the immediate act of feeling, the only way feeling can manifest its mediation by the psyche is through its own nonbeing or detachment. This cannot but occur immediately once the psyche happens to feel something similar to what it has felt before. Not yet disengaged from its feelings, the psyche does not yet have any distance from them which would allow the psyche to be free of their hold and manipulate them in turn as possessions of its subjectivity. Accordingly, if the psyche is to come to disengage itself from its feelings in function of feeling feelings similar to those it has felt before, this habituation must occur automatically, without any additional effort. Habituation involves an internalization of feeling whereby the psyche comes to mediate its feeling of a feeling in function of having already felt something similar. The psyche thereby acquires dispositions, internalized feelings that lose their immediate hold upon the self by becoming habitual.

Analogously, the internalization and recall of intuition can occur only as an automatic development, engendering an image following from a repeated intuition of a similar object. Just as the repetition of similar feelings automatically habituates the psyche to them, allowing it to detach itself from them in function of having internalized a like disposition, so intuition becomes re-presented in the form of an image the moment intelligence intuits something like what it has earlier intuited.

This recollection must originally occur immediately, because if intuition were not directly re-presented, some other mental factor would have to intervene to produce that image. At the outset of representation, however, intelligence has nothing to employ as an instrument for re-presenting intuitions. All intelligence has at its disposal is the

intuition it currently intuits and the history of its prior intuitions, of which it cannot be aware prior to recollection. That history does not yet exist as a trove of images. To ever be recollected, past intuitions must produce some specific neurological trace, which the intuiting of intuitions continually leaves behind in function of nothing but its own physiological realization. As physiological phenomena, such traces are subject to various impediments and degradations, where congenital impairments, disease, accident, and the aging process limit what is available for possible recollection.[22] The particular architecture of such traces cannot be directly associated with any intuited content. Given the general plasticity of the nervous system and the nature of organic unity, the configurations of the neurological remnants of previous intuitions depend rather upon the unique physiological and psychological development of the individual in its relation to its environment, including other individuals. Whatever the neurological realization may be, it is not itself an intuition, let alone an image. The mark left for intelligence by prior intuitions presents only a determinate potential for recollection, which first provides images when that potential is realized. Something more than neurological traces must be engaged to bring that potential to fulfillment and generate an image.

Attention cannot alone realize that potential. Intelligence can focus its attention on aspects of the given intuitive manifold, but that does not of itself re-present anything. Without already recollecting, intelligence cannot yet relate what its attention focuses upon to any former intuition. Only in and through recollection does the image first emerge, for only in recollection is mind aware of a mental content that it knows to "internalize" a former intuition.

Consequently, the transformation of intuitions into images must initially occur as an automatic recollection, instigated by the repetition of similar intuitions in just as mechanical a manner as the engendering of habits through the psyche's recurrent feeling of similar sentiments. No other option is possible. The unity of intelligence has no intrinsic relation to the content of its past intuitions and the images recollection engenders. Accordingly, intelligence has no way of independently bringing to mind any specific re-presentation.[23] Prior to recollection, all intelligence can do is intuit intuitions and focus its attention upon their various aspects. Something else must trigger recollection. If the repetition of intuitions does not serve as the needed occasion and directly produce their re-presentation, intelligence would require another factor to elicit the resulting image. That factor, however, would then immediately engender the re-presentation or else depend upon a further factor

that would be mediated by something else or be immediately given. Either way, a direct, unmediated external activation of re-presentation would eventually occur. In that case, however, what else could account for the coming to mind of one image rather than another besides the resemblance of the occasioning mental factor to what is re-presented?[24]

Since the recollected image is known to be an image of the past by re-presenting an intuition one has already had, the memory of former intuitions of objects depends upon repeated intuitions of them.[25] This is true even though intuitions are immediately internalized as potential images, for what manifests their internalization *for mind* is the recollection that rests on repetition of similar intuitions.

Granted that similar intuitions must automatically elicit re-presentation, the question still arises as to what accounts for any such similarity in intuited content. The answer is simple. What allows for the "repetition" of intuitions in the first place is the same regularity in the world and the embodied self that insures that similar feelings would arise from similar internal and external occurrences, producing habits. This regularity is inescapable because mind involves an animal organism, whose self-sustaining process upholds an enduring identity feeding upon the regularities of other living things, as well as those of inanimate motions, electromagnetic processes, and chemical reactions.

Whereas recollection therefore can happen automatically by nature, intelligence cannot fail to be aware of its new act of internalization. This is so because awareness of an image involves recognition of the re-presentation of the original intuition. Without awareness of the image's production through recollection of the prior intuition, what is recollected would count simply as another intuition, as another immediately given manifold both subjective and objective in character.

For this reason, any denial of introspection, as widely perpetrated by behaviorists of every stripe, renders images and imagination incomprehensible.[26] Of course, the denial of introspection entirely contradicts the reflexivity basic to mind, whether it operate as a psyche feeling its own feelings, as a consciousness aware of its mental contents as determinations of objects it confronts, or as an intelligence intuiting its own intuitions, representing its own representations, or thinking its own thoughts. The imagining of images brings the reflexivity of mind to a most explicit manifestation, since unless intelligence recognizes its representation to be a product of its own imagination, it cannot distinguish between image and intuition.

This reflexive awareness of re-presentation is ingredient in the twofold genesis of the recollected image. Resulting from intuiting an intuition

resembling a prior intuition, the image comes to mind through two coordinate mental developments: on the one hand, the intuiting of a mental content resembling some past intuition and, on the other hand, the taking possession of that prior intuition, enabling its recall as an image.

The resembling intuitions can have internal as well as external objects. The intuition triggering recollection can just as well address an internal state, such as an appetite for some object, as an externally perceived thing. Resemblance is required in both cases, since intuition does not have any descriptive resources with which to otherwise relate its image to a prior content. Only identity or nonidentity can be apprehended without introducing any mediating terms. Consequently, intuitive attention can focus on some part of the intuitive manifold that resembles an antecedent intuition, apprehend the resulting recall, and thereby recognize how intelligence's own intuiting mediates its current re-presentation.

The internalization of the intuition must follow immediately upon being intuited, since the intuition has no further presence for mind unless it has already been re-presented. Nonetheless, the automatic internalization of the intuition is not apprehended by mind until intelligence recalls it as an image. Consequently, intelligence *becomes* a veritable storehouse of images,[27] an ever-expanding unconscious trove of potential representations determined by the history of mind's own intuiting and ready to be actualized upon the occasion of like intuitions.[28]

This trove of memory images does not just internalize the contents of intuitions in their isolation. It also must somehow record enough of their context to place and date them.[29] Otherwise retrieved images could never provide any determinate access to the past and count as recollections.[30] Without that placing and dating, the internalized intuitions could not be apprehended as anything more than intuitions or images that are simply similar or different from current intuitions.[31] This does not mean that the image must be left with the complete contextual determination of the intuition from which it derives. As an image, it still exhibits an extracting from the context that it recollects. Although the recollection must carry with it sufficient spatial-temporal traces to set it determinately in the past and allow it to be apprehended as a re-presentation, it remains an abstraction, distinguishable from the original intuition on which it rests.

The ensuing recollection of previously intuited content may have to wait until some similar intuition is intuited, but the re-presentation happens just as automatically as the internalization of the intuition on

which it partly depends. If the image production was not automatically elicited by the repetition of similar intuitions, it would have to comprise a productive rather than reproductive imagining. Without an externally occasioned re-presentation of intuited content, however, intelligence has at its disposal only its intuitions here and now. In the absence of recollection, mind simply has no images to associate or with which to construct new representations. Any productive imagination therefore depends upon an antecedent reproductive imagination comprising the automatic recollection of images retrieving the contents of past intuitions resembling those currently encountered.

It is tempting to consider the physiological realization of the automatic internalization of intuition and equally automatic recall as if particular potential images existed in specific neurological structures. Recent research has uncovered how repeated excitations of nerve pathways cause neurochemical alterations, seemingly priming the re-presentation of intuitions. Nonetheless, that images could be identified with particular brain tissues is suspect because, as both Hegel and Bergson have pointed out,[32] recollection brings images to mind that become images only in being brought to conscious awareness within the reflection of intelligence. Neurophysiological processes certainly may underlie that emergence as necessary enabling conditions, but no particular physical structure can be identified with a mental content whose being resides in the self-related mental activity in which representations occur. Since that activity is performed by the centralized subjectivity of intelligence, it cannot be equivalent to the occurrence of any particular isolated neurochemical transmissions, let alone the synaptic connections they traverse, even if these are part of its realization. What these particular neurochemical realities contribute is determined by how they figure within the totality of the life of an intelligent individual, which includes its manifold physiological process.

Whatever be the neurophysiological component of embodied intelligence, the primary reproduction of intuited content in recollection is formal insofar as the content that reappears in the imagined image undergoes no positive modification. This is true with respect to the re-presented intuitions of any sense modality as well as to re-presented intuitions that have an intersensorial content. That is, intuitions can be re-presented without content modification whether their recollection recalls intuited sensations of touch, sight, hearing, smell, or taste and whether they are intuited separately or together.[33]

What does distinguish the image from the original intuition is the removal of certain contents incurred by the recollected content's

detachment from the circumstances of its original intuiting. All features bound up with the causal entanglements of the intuited object get jettisoned once the internalization and recollection of intelligence sever these relations. Whereas the internalization of the intuition withdraws it from the encompassing space and time of its original presence, its recollection places the resulting image into a space and time of the mind. In this imagined context, the content of the image contains what is left over after abstracting away all the effects originally produced by the environment surrounding the intuited object. The image does reproduce at least some of the originally intuited content, which, after all, is what allows it to comprise a recollection.

This abiding identity of the re-presented content gives the image an incipient universality, since it does represent something common to itself and the original intuition. Nonetheless, the reproduced content of the image is still merely singular and sensible. Although the classical empiricists tend to regard this reproduced sensible content as if it constitutes the universality of thought, the image cannot be a sufficient psychological vehicle of reason. Imagery is fundamentally different from conception, for the abstraction of re-presentation is formal, retaining some of the immediate singular content of intuition. By contrast, genuine thought determines the universal, giving it a positive particularization independent of intuition.

Due to the defining formality of recollection's re-presentation, it cannot be specific to discursively rational subjects. Recollection may be the minimal, originating form of representation, but it does not comprise the verbal memory that linguistic intelligence depends upon. Preverbal infants and children, as well as dumb animals, can all recollect. They can, as Aristotle observes,[34] therefore learn from the past, at least with respect to the recycling of sensible circumstances. So long, however, as their imagination remains bound to reproducing what they have intuited, they can never advance beyond imagery to thought. Consequently, one can distinguish merely "animal" recollection from full-fledged "human" memory. The recollection of preverbal intelligence can be differentiated from the memory of linguistic intelligence by acknowledging that "animal" recall is limited to recollection, where images are reproduced on the occasion of some present perception or inward feeling that mind recognizes to resemble some past intuition.[35] By contrast, "human" memory extends to the comparatively free retrieval by an imagination that can produce, externalize, and remember representations of its own fashioning, exercising a verbal memory making speech and thought possible.

Although recollection limits intelligence to re-presenting what is given in intuition, the production of the image within the mental realm of imagination sets intelligence free to associate images without restriction to how intuitions are enmeshed in their direct relation to objects. Once recollection retrieves formerly intuited content from its immediate situation and reimagines it in mind's own subjective arena, intelligence is poised to proceed from recollecting images occasioned by like intuitions to associate images in connections independently produced by intelligence. Mind's representation of images provides everything needed to take this step from the formal abstracting of reproductive imagination to the positive productive concatenation of images. The image derives from both abstractively internalizing the content of intuition and retrieving such content in connection with similar current intuition. Consequently, reproductive imagination already involves focusing intuitive attention to relate different mental contents while distinguishing what is imagined from what is directly intuited.

3.2.1 Recollection versus the unconscious syntheses of conscious perception

The recollection of images is distinct from the unconscious syntheses of mental contents that underlie conscious perception and understanding.[36] As Kant has shown in his *Critique of Pure Reason*, consciousness of objects in space and time requires a continuous connecting of sensations that enable objects to be reidentified from moment to moment, place to place, and view to view. This involves a retention of successive sensations in order to enable them to provide for the perception of abiding objects in a unified space-time continuum. Otherwise, mind finds itself confronting nothing more than instantaneous vanishings.

In this sense, Bergson is correct to affirm that any perception always occupies a certain duration, which requires connecting the succession of sensations into an enduring manifold. Although Bergson refers to this synthetic process as an effort of memory, importing the past into the present,[37] these acts of combination do not involve intelligence taking note of intuitions and images of its own. These syntheses are instead unconscious ingredients of conscious awareness by means of which consciousness is able to perceive things with properties in space and time, on the basis of which consciousness can then understand the dynamic relations of objects to one another. What consciousness is here aware of is the world of perceived things, not the mental process of combination or the mental contents that are connected to produce the continuities of recognition. By contrast, the recollection of intelligence

is a recollection of images, which mind is aware of as such at the same time that mind may consciously connect these to what it knows to be its own intuitions of objects confronting it. As Bergson himself admits, to call up the past in the form of an image, mind must be able to withdraw itself from its actions and perceptions of the present moment and reflect upon what it recognizes to be a dated mental content retrieved by its own reproductive imagination.[38] This requires an act of intelligence and not just conscious perception.

Nonetheless, recollection and perception do become interlaced,[39] with intelligence rendering its perceptions as intuitions whose mental character mind is aware of at the same time that it apprehends what it intuits and what it reimagines. Consciousness, however, can perceive and understand without recollection, which is why the processes of conscious awareness can be and be conceived prior to the emergence and conception of intelligence.

3.2.2 Forgetting

Every intuition and every recollected image might be considered forgotten the moment it slips out of awareness and intelligence focuses upon some other intuition or recollection. If intuitions or images could not be let go, intelligence would be crippled. If the current array of intuitions and images could not be subtracted from nor added to, intelligence would be paralyzed into a frozen inner and outer gaze excluding any further mental activity. Were intuitions and images to continually accrue without any loss, intelligence would be transformed into an ever-growing mass of mental contents whose simultaneous apprehension would increasingly hinder any effort to locate and refocus any particular representations.

Habit already provides the psyche a means of withdrawing its attention from recurring feelings. Since feelings provide the content for sensations as well as intuitions, habit enables consciousness and intelligence to distance themselves from recurring sensations and intuitions, respectively.

In so doing, habit provides its own record of the past in the form of acquired dispositions, whose motor and mental facilities bear the imprint of repeated behavior and repeated perceptions. This record is available to intelligence in any dated manner only through recollection of the experiences through which a habit was acquired. Since habit is unconsciously obtained and unconsciously activated, it does not itself interfere with recollection and the selectivity of voluntary memory, except by inuring mind to certain repeated sensations.[40]

Once the retrieval of internalized intuitions is freed of dependency upon current intuitions of similar contents and can be subject to any control by intelligence, that control would be expected to have a developmental character reflecting the rise of rational discrimination. Bergson maintains that children, as well as intellectually challenged adults, exhibit an extraordinary development of spontaneous memory reflecting their inability to limit their remembrance through the selective imperatives of mature conduct. They remember with less discernment and revel in a "life of dreams" flooded with indiscriminate memory.[41] When sleep further diminishes the intelligent control of imagination, actual dreams bring forth otherwise repressed memories in unconstrained associations.[42]

One can imagine two extreme situations of memory, both hobbling intelligence if they were to become exclusive permanent modalities of mind. On the one hand, there would be the predicament of an individual who could remember only what resembled current intuitions. Such an individual would be constantly communing with figurative contents that were shared by past and present intuitions but have no ability to bring to mind any other representations. Conversely, there would be the plight of an individual who remembered all past intuitions, filling his awareness with the ever-growing detail of accumulating experience. Instead of being confined to contingently encountered resemblances, this individual's intelligence would be overwhelmed with singular images.[43]

Luria describes a "mnemonist" who similarly lacked the capacity to forget any singular intuitions, leaving him unable to imagine general representations that selectively connect particulars as instances of some shared figurative content or as members of an empirical class.[44] Such general representations can be entertained by themselves without retaining all the singular images to which they are connected, but that abstraction was absent in the all-encompassing concrete memory of this individual. Although he was able to speak and read, his use of words depended upon images that had to be kept in mind. Reading produced a cascade of colliding pictures, as each word was attached to an image, obscuring the meaning of the entire sentence.[45] The problems this produced anticipate how figurative imagination is not adequate for understanding language. Luria's subject declared, "Other people *think* as they read, but I *see* it all."[46] What can be pictured, however, can hardly exhaust the universal reach of discourse. The mnemonist had to admit repeatedly, "I can only understand what I can visualize."[47] His inability to forget was a barrier to leaving images behind, as thought and proper

language use both require. Although this "mnemonist" could readily deal with mammoth assemblages of images, he was inept at understanding logical connections.[48] Nor could he appreciate poetry, for all he could ever consider was the literal meaning of images and never the metaphorical ideas they might evoke.[49]

As Luria suggests, the difficulties of the "mnemonist" intimate the problems adolescents encounter when they reach the stage of moving from figurative representation to genuinely abstract thought and ponder the meaning of eternity, infinity, and nothingness, for which no images can suffice.[50] So long as they can forget, the way is open to comprehend what cannot be visualized.

3.3 Associative imagination

As soon as intelligence has internalized intuitions and re-presented their extricated contents as recollected images, mind can employ intuitive attention and associate images and intuitions, putting them into a subjective connection within the arena of imagination.

This becomes possible because once an image has been represented, its continued presence for mind depends no longer upon some external intuition but rather upon how intelligence focuses its attention. Although the image first arises through an automatic, passive reaction to repeated intuitions, when intelligence takes the image into possession, its presence for mind is just as severed from its initial recall as the content it re-presents is severed from its immediate connection to its object. No longer needing like intuitions to bring it to mind, the image is something that intelligence can actively attend to at times and locations of its own choosing.[51] Hence, intelligence can now equally associate images with one another, apart from how intuited content is contextually connected.

Although this associating proceeds at the level of intelligence, it initially involves the same type of basic grouping that consciousness performs when it engages in perception. Consciousness perceives rather than merely senses what is when it focuses on some aspects of the manifold of sensation, holding these together to the exclusion of others, thereby rendering them properties belonging to a thing. In so doing, consciousness distinguishes one such collection from others, in each case grouping sensible features that, as immediately given, have no intrinsic connection but depend upon the combinations of consciousness to give them their unity as discrete things. Consciousness, however, is not aware of its own grouping, synthetic activity. Instead, consciousness is

aware only of the products of its own activity, which it treats as objective, thereby perceiving things and their properties. This is why Kant characterizes the syntheses at work in perception as "transcendental." They are ingredient in any perception of things, without consciousness being therein aware of its own synthetic activity.[52]

Reproductive imagination similarly organizes the given manifold of intelligence but with awareness of its own combining and discriminating activity.[53] Reproductive imagination thus provides a wealth of images, extracting their contents from the connections conditioning their original intuition, thereby leaving intelligence free to associate them in a temporal and spatial ordering of its own construction. Instead of grouping sensations forming the properties of things, intelligence here engages in a productive imagining that associates images that can already contain the unity of things, as well as the dynamic relations of objects interacting within the circumscribed boundaries of reproduced intuitions. Recollection restricts itself to re-presenting extracted aspects of given intuition, thereby producing images with that content. Associating imagination extends beyond this negative abstraction of reproductive imagination to engender connections and discriminations that are not to be found in the original intuitions. These connections and discriminations still apply to the same contents that the associated images contain,[54] but they introduce a new set of relationships, positively replacing those that recollection had set aside by severing its re-presented content from the entanglements of its original intuited totality.

With the fashioning of these relations by imagination, an opposition first begins to open up between represented content and the intuited given content of objects.[55] By figuring as the ordering power lording over images, imagination is not just reproductive but productive *as well*. The new positive productivity of imagination does not eliminate re-presentation but rather incorporates images of reproductive imagination within the imagined new relationships.[56]

Unlike perceiving consciousness, which confronts things and their properties without being conscious of the combining and separating activity producing their unities, intelligence is aware of the activity by which it generates the associations of images. That associating activity, comprising the initial form of productive imagination,[57] is unfailingly noticed by intelligence because the resulting connections of images cannot be apprehended as such without being acknowledged to be products of mind. If instead the connected representations were apprehended as immediately given rather than mediated by intelligence, they would

revert to intuitions, containing relationships that are merely found. Relations among images, however, are inherently subjective products, even if they provide insight into objective connections. This is true of representations in general, be they recollected or productively imagined. What is distinctive about the apprehension of associated images is that their association, not just their re-presented content, is explicitly mediated by intelligence.

Initially, the product of imagination's associating activity, the association of images, is present to mind only for as long as intelligence continues associating those images. However enduring the association may be, it consists in the unity of the imagining activity producing it at any juncture or over any period of time. The association of images persists solely while intelligence focuses on some images and conjoins them, insofar as their association consists in nothing but the combination of these images by and for the imagining intelligence. This dependency upon ongoing mental activity reflects the subjective character of association, for intelligence here substitutes its own subjective bond among associated images for the objective bonds in which intuited content is originally entangled.[58]

The associating of productive imagination can involve more than simply linking images externally in sequence or contiguity. Associative imagination can further represent images contained within other images, images that combine others within themselves, or associations that do both together by imagining images that encompass others while being contained within more encompassing images. Moreover, intelligence can further connect associations of images with other associations or other single images. In each case, productive imagination conjoins features whose original connections have been broken apart by the antecedent extractions of reproductive imagination from which images first arise, ready for association.[59]

Without the association of productive imagination, mind would be limited to the involuntary occurrences of reproductive imagination. These provide recollections fostering rote responses but no resources for forging spontaneous connections of imagery, including the eventual production of symbols and signs. By means of productive association, intelligence can now engage in voluntary memory, putting before itself images so as to elicit further remembrances that given intuitions have yet to trigger.[60]

Moreover, productive association makes learning possible. In the absence of productive associations, experience cannot be drawn upon to supplement automatic habituation. Learning cannot occur with

reproductive memory alone. Whereas an individual may acquire a habit from the repetition of similar experiences, an individual learns only when mind associates recollections of past connections with images of new different circumstances, fostering a novel understanding. Thanks to productive imagination, intelligence disposes of an inner theater for connecting images to try out options that have yet to be encountered in experience. With this resource, mind is in a position to act with insight, independently of trial and error.

Further, without productive imagination, mind could not fantasize, engage in the make-believe of play, or generally entertain imagined options unsolicited by current perception. If mind were limited to reproductive imagination, intelligence would have nothing with which to occupy itself besides current intuitions and recollections. With productive imagination, mind can create rather than merely re-create, even if the material for productive imagining is originally provided by intuition and recollection. In sleep, the intelligent mind can now dream fantastical images rather than revisit memories, whereas awake it can now daydream what it knows to be its own playful invention. The stage is set for intelligence to guide behavior by more than immediate intuition and recollection. This is manifest in the development of play, where children act in respect to imaginary associations, with motives no longer predicated solely upon current perception or habit.[61]

These new possibilities do not mean that productive imagination is an exclusively "human" endowment, separating discursively rational minds from those of dumb animals and prelinguistic children.[62] There may well be animal species that have reproductive but not productive imagination, for reproductive imagination can be realized prior to and apart from productive imagination. Moreover, since productive imagination depends on recollection, both dumb and rational animals may undergo a stage at the outset of their mental maturation where they can recollect but cannot imagine productively. In any case, the advent of productive imagination signifies a crucial stage in both the phylogenetic and ontogenetic development of mind. Vygotsky, for one, may insist that (productive) imagination is "totally absent in animals,"[63] but dumb animals need not talk and think to learn and acquire specific skills that apply to new conditions or to play in rudimentary "games" that operate without explicit recognition of abstract rules. As long as they can produce images and connect them to their intuited situation, without depending just upon recollection, their field of behavior can extend beyond habit and trial-and-error reinforcement. It should thus be no surprise that various relatively intelligent animals, from apes to crows

to octopuses, can employ objects as tools with at least limited insight, just as a domesticated dog can play "fetch" with its master. Nor need all dumb animals be deprived of the ability to imagine different scenarios of action, as if the lack of linguistic intelligence could prevent a mind from associating images in any unprompted order. The divide between subrational and rational intelligence lies elsewhere than in the emergence of the associations of productive imagination. That divide, rather, first comes into play once imagination begins to generate general representations and with them the mental activity for engaging in linguistic communication.

3.3.1 The production of general representations

The contents reproduced by recollection are singular and sensible, owing to their origin in immediate intuition. Nonetheless, the production of associations of images introduces a universality of content going beyond the formal generalities entailed by the mere duplication in re-presentation and the possession of images by one and the same intelligence.[64] This further universalization arises because the association of images apprehended by intelligence presents images in specific connections comprising either of two types of generality.

On the one hand, whenever association relates an image to a plurality of other images as something found within them all, the former image functions as an abstract universal. It does so by representing a content they hold in common that otherwise leaves unspecified everything else individuating them from one another. This connecting image is universal insofar as it is apprehended as shared by a plurality of individuals. It is abstract in that it can be abstracted from each without impacting upon any of their other features.[65] It still remains figurative, because it is a sensible content found in each of those images. Accordingly, the commonly inhering image operates as a figurative abstract universal linking those images associated with it. Intelligence does not apprehend it to do so by merely focusing upon its content in isolation, for that content is just as particular as that of any other image. Rather, intelligence is aware of this general representation's special role by apprehending how other images are connected by it within the associating of imagination.[66] This is achieved when intelligence analyzes a manifold of intuition reproduced in image form, focuses upon some particular aspect that it finds in other images, and then recognizes how that aspect connects the images in which it is a common component.[67]

On the other hand, when association produces an image containing a plurality of others, that encompassing image functions as a class, as

a composite whole whose members' differences are not determined by their membership. A class contains the individuals that belong to it in their entirety, but the class possesses no further factor mandating their membership nor possesses any principle determining what distinguishes them from one another. In this case, intelligence begins by analyzing some image and distinguishing within it the images of recalled objects that happen to be therein contained. This class is once more figurative rather than insensible, since it re-presents an encompassing content derived from intuition, joining within itself the images of its members.

Since the intuited content re-presented in associated imagery is immediately given, its features exhibit no intrinsic connection. What is intuited simply *is*, and nothing in the given content can serve to distinguish what within its manifold is necessary as opposed to contingent. This is why imaginative associations can generate only abstract universals and classes, the forms of universality in which the differentiation of particulars is wholly indifferent to their unification by universality. The abstract universal comprises a content commonly inhering in a plurality of individuals whose distinguishing features have no intrinsic connection to this mark that they share. Similarly, members belong to a class by falling into a group whose unity in no way specifies who its members are as individuals nor any subdivisions into which they may further fall.

Together, the two options, figurative abstract universal and figurative class, enable the same image to represent any number of objects as well as enable the same object to have any number of images serving to represent it.[68] Because the figurative abstract universal leaves undetermined the other sensible features differentiating the individuals in which it inheres, there is no way of deriving the plurality of individuals from the figurative abstract universal they share, just as there is no way of precluding each individual's other features from being held in common by other individuals. Similarly, because the figurative class leaves equally undetermined the distinguishing features of its members, what they individually are cannot be derived from the class to which they all belong, nor can their membership in indeterminately other classes be excluded.

Association of images cannot produce a genus, properly speaking, for the unity of the genus involves a necessary differentiation of species. The members of a species may not be individuated by their species membership, but the differentia distinguishing species are intrinsically contained within the universality of the genus.[69] For this reason, the genus is more concretely universal than either the abstract universality of inhering quality or of class. Because imagination associates images,

whose contents derive from given intuitions, the unities it produces are conditioned by rather than determinative of those individual givens. Consequently, associative imagination can at most produce family resemblances, which represent class groupings, insofar as their particulars are simply found rather than derived from the unity of the universal, as in genus and species.

Whether involving abstract universals or classes, representations owe their generality to the activity of intelligence, whose associating is responsible for sustaining these relationships. Members of classes are no more drawn to one another through some force of attraction than are the singular images that share some feature. Rather, the imagining intelligence is the "force" that draws together class members and unites images with contents in common while ignoring their dissimilar aspects.[70] The generalization of images proceeds in two stages. First, recollection begins to generalize images by reproducing intuitions, removing the contents tied to the entanglements from which the intuited content is extricated and placing them all within the selfsame mental arena of the imagination. Then mind's productive associating subsumes intuitions, both current and recollected, under previously internalized images, securing the relationships comprising abstract universality and class membership.[71]

Although the association of productive imagination thereby engenders representations whose relationship to others exhibits the generality of abstract universals and classes, these general representations remain bound to the given contents re-presented in the images they associate. Intelligence may spontaneously attend to certain images, freely associate them, and then focus anew upon aspects of the connected images, but this formal autonomy of imagination is counterbalanced by the independent givenness of the contents it imagines.[72] General representations produced by imagination still contain imagery, re-presenting the same singular sensible content that is left over when given intuitions are abstracted from their original context.[73] Whether common to or inclusive of other representations, general representations remain images, issuing from the same general repository of intelligence.[74] Although they may provide vehicles for a "pictorial" ordering of experience, as practiced by the denizens of Plato's cave, they fail to attain the imageless content that enables concepts to set thinking free of the hold of the given.[75]

General representations are comparable to what Kant calls schemas of empirical concepts, provided one understands the "concept" in question to be figurative rather than insensible. Kant describes the schema of a

concept as being "the representation of a general procedure of the imagination for providing a concept with its image."[76] Thus, "the concept of a dog signifies a rule in accordance with which my imagination can specify the shape of a four-footed animal in general, without being restricted to any particular shape that experience offers me or any possible image that I can exhibit *in concreto*."[77] Accordingly, the schema of an empirical concept consists in the general associating activity whereby productive imagination relates a plurality of instances or class members to the empirical, figurative "concept" or general representation which inheres in or encompasses them all, without being restricted to anyone.

In this respect, general representations are like shapes and paths of movement, sensibly perceivable schemas whose spatial and temporal determinations can be abstracted from the "secondary" qualities on which their appearance depends. They may be translatable into the formulas of Cartesian geometry,[78] but they still remain distinct from insensible "eidetic" forms, accessible *only* to thought.

For this reason, the so-called laws of association of images neither associate "ideas" proper nor constitute genuine laws.[79] Because they associate images in terms of shared sensible contents, general representations are neither insensible unities nor abstract principles that determine individuals apart from intuited content.

Nonetheless, general representations should not be conflated with images.[80] Images re-present sensible content deriving from intuition, whereas general representations associate images in virtue of something they share, be it a common inhering feature or membership in an encompassing group. Still, general representations remain bound to imagery, which is why they cannot suffice as vehicles of pure, autonomous thought, which generates its own conceptual content without appeal to the given.[81] Whereas concepts proper have a unity that determines their individuality,[82] general representations associate images whose differentiating content is given independently of their association by intelligence and must first be provided by re-presenting intuitions. Precisely because concepts differentiate themselves without images, they can be adequately expressed only discursively through signs whose configuration has no intrinsic connection to the purely abstract meanings they signify. By contrast, because general representations owe their content to intuited givens, neither the production nor the apprehension of general representations can dispense with imagery.

Just this abiding retention of re-presented intuition permits dumb animals, as well as prediscursive children, to have general representations. Whereas discursive subjects can apprehend insensible form

separated from matter, the dumb animal and preverbal child must deal in some respect with a present object,[83] present in an intuition whose content remains at least partially retained in subsequent associations of images and the general representations these engender. The present object may be like another, and the likeness may facilitate recognition of the object's kind in the sense of a family resemblance. Nonetheless, the kind is not itself the object of an independent recognition. The general representation is recognized *in* the present object, understood as one of that kind, by means of familiar intuited properties, the internalized "memory traces" of which recall their counterparts and retain represented content from their original intuitions.[84]

The imagining of general representations, aided by figurative memory, does make possible learning and recognition of imaginable empirical rules. As Aristotle points out, when the associating of the general representation deals with how things come about, it provides a principle of skill, whereas when it deals with what is the case, it provides a principle of understanding.[85] The capacity for general representations thus enables dumb animals and preverbal children to not just acquire habits but learn skills and gain an understanding of perceived regularities in themselves and their environment.[86] Tool use can thus be engaged in by dumb animals, like octopuses, crows, and apes, and begin to be employed by infants and children before they have begun to speak and conceptualize. The general representations that make all this possible, however, do not suffice for comprehending insensible universals and lawful necessity.

This is reflected in the often noted inability of ape intelligence to abstract from the field of present perception and use insight to apply general connections in a new separate domain. A chimpanzee can learn through trial and error how to use a stick to reach a banana outside its cage, but it is unable to employ that skill when the stick and the sought-after object do not fall within the same field of vision. If only the stick can be seen, it will not be used even if the chimpanzee could recall the nearby but unseen presence of the banana; whereas if the banana can be seen while the stick falls from view, the banana will be attended to, but the unseen tool will not be sought for use. In either case, the inability to imagine the general representation of tool use apart from a particular intuition of its relation to its object prevents the ape from doing what comes so easily to a developing child: to bring insight into some general connection to bear upon a new situation.[87] Consequently, it would be a mistake to characterize childhood psychological development in zoological terms, as if chimpanzee intelligence could serve as a model

for a mind that is underway acquiring not just technical know-how but discursive reason.[88]

To the extent that comprehending insensible universals and lawful necessity depends upon linguistic intelligence, dumb animals, preverbal children, and perhaps adults stricken with aphasia[89] remain restricted to figurative understanding and the abstract universal and class relations that associations of images can convey.

This is so because the general representation cannot be apart from its relation to images and this relation depends upon the distinction between these factors. The general representation and the images it associates can be regarded as inner and external aspects of one mental apprehension. In isolation from the associated images, the general representation is just another single image, lacking the external figuration which comprises the expression of its specific universality. Conversely, apprehended by themselves, the different images fall apart from one another, with nothing securing their bond. By connecting both general representation and images, associative imagination produces "the imaging of the universal and the generalization of the image."[90]

Although the association contained in producing general representations is preconceptual and preverbal in character, it resembles some of the associations to which classical empiricists, like David Hume, reduce conceptualization. Hume offers resemblance, contiguity, and causality as the three forms of association of represented "impressions," as if these were the basis of all general ideas.[91] Resemblance can be linked to the abstracting of a common figurative content from multiple images, whereby a sensuously conditioned abstract universal is represented. Contiguity can be linked to the aggregation of images into a general representation of a class or family resemblance. Causality, however, falls outside general representation insofar as causality lays claim to a necessary relation, rather than mere subjective association. This is why empiricist skeptics like Hume reject any empirical foundation of causality and relegate it to subjective custom, resting on psychological expectations of certain "effects," expectations inexplicably "caused" by repeated observations of similar occurrences. It is also why Kant will seek to ground causality on a priori categorical relations, where concepts and judgments determine the association of representations.[92]

3.3.2 Types of general representations and the stages of prediscursive intelligence

The association of general representations can take different forms that have important ramifications for the formation of thought and language.

As we have seen, general representations fall into two broad types: representations of abstract universals, imagining a figurative content shared by a plurality of images, and representations of family resemblances, imagining a figurative grouping encompassing a plurality of figurative representations within its "class" aggregation. These options themselves take further particular forms whose independent realizations comprise important stages in the phylogenetic and ontogenetic development of intelligence.

Vygotsky has schematized these stages as they figure in the further emergence of language and concept formation, where general representations become designated by symbols and signs, whose own meanings undergo transformation in the transition from figurative to conceptual mental activity. Vygotsky groups the types of designated general representations under two headings, "complexes" and "potential concepts," which correspond to the representations of empirical class groupings (family resemblances) and abstract universals, respectively.[93] It is important to note this double duty of the associations of general representations, first in prelinguistic intelligence and then in concept formation, for it plays a key role in making possible the emergence of discursive thought.

Following Vygotsky but leaving for later consideration how general representations subsequently get symbolized or signified, we can note the salient features distinguishing the types of figurative abstract universals and figurative classes. In each case, the identifying distinction is provided for by resources with which prelinguistic, preconceptual intelligence is already endowed.

To begin with, intelligence gives itself a general representation simply by associating images without any further discrimination. This most rudimentary association groups otherwise disparate images without mediating their connection by any other factor. Such imagined groupings comprise completely "unorganized congeries" or "heaps" of figurative contents, randomly posited by intelligence without any basis for preserving their connection.[94] These "syncretic heaps" may become tied to trial-and-error efforts to locate the extension of "meanings" that an individual encounters in early linguistic development, but even then, the general representation contains no distinct standard for defining its own boundary.

A minimal objective basis for the general representation of grouped but otherwise unconnected images is the chance occurrence that objects in an array happen to be perceived in some contiguity, be it spatial or temporal. Such contiguity may ground the association made

by intelligence, but that ground still leaves the grouping otherwise undetermined.

The same formality persists when the general representation associates not just disparate images but a plurality of "syncretic heaps" of images or a collection of individual images and "heaps" of images. The representation of the grouping may now connect more complex components provided by prior associations of imagination. Nonetheless, these have no more intrinsic connection than the singular images in any more basic grouping. They retain the same "incoherent coherence"[95] of the most elementary general representation.

General representations acquire a less arbitrary connection when they associate images whose objects are actually concretely related to one another rather than just being contiguously perceived or merely imagined together.[96] Instead of subjectively grouping disparate images, the general representation now presents a complex, whose associated components are bound together by some objective feature. Although the associated factors are not yet logically connected through some conceptual unity, they possess a factual bond that is imagined in the representation of the complex.

These general representations of objective complexes have multiple forms, reflecting the factual associations that intelligence encounters. The represented complex can group images of objects sharing a figurative property, such as some shape, size, or color. Alternately, the represented complex can unite objects with the same type of property, engendering a "collection" of imagined objects with different examples of that one type, such as a grouping of things of contrasting colors. Here the general representation associates images by contrast rather than similarity.[97] Further, intelligence can represent a collection of imagined objects with several types of features, such as different shapes and different colors.

Moreover, since the intelligent individual is an embodied self, engaged in worldly activity, intelligence can form general representations associating the images of objects on the basis of their practical functional connections. The comprehension of functions is provided by conscious understanding of dynamic relationships, which intelligence is in a position to supplement by associating images of such connections.

Dynamic relationships link objects under the sway of external determinations of efficient causality, which alter their spatiotemporal material relationships with indifference to what kind of a thing they are. Although apprehension of necessity requires some conceptual understanding, intelligence can still imagine dynamic relations even if no

figurative relation can represent causal law as such. Since these imagined connections apply to objects in their entirety, when intelligence associates images of dynamic relationships, it represents "chain complexes,"[98] in which the related objects enter in with all of their features. Although an objective linkage is represented, its indifference to the individuality of the objects involved burdens the representation with contingent figurative contents, none of which are distinguishable as essential as opposed to nonessential. Unlike conceptual determinations that tie specific particulars to certain universals and provide some rational hierarchy, "chain complexes" leave all qualitative attributes equally undetermined by the material necessity governing the changes of the things to which they belong.[99] For just this reason, the represented complex does not transcend the objects it contains, like a concept that defines a common nature. Instead, the dynamic complex contains each linked object in its concrete perceptual totality. The representation of the complex must thus remain figurative in character.[100]

Insofar as the "chain complex" contains a linkage that is indifferent to the figurative content of the objects it connects, intelligence can readily find itself associating images whose variety is as indefinite as it is limitless. The associated images remain concrete, but what links one to another can become completely diffuse in the arena of imagination, where intelligence groups images into a concrete complex whose connecting thread appears to change from one link to another. Objects may be connected in terms of color in one link and then be tied by shape in the next. The resulting "diffuse complex" remains bound by concrete ties between objects, but these ties rest upon the caprice of intelligence, since whatever linkage underlies the complex does not lay hold of the entire figurative contents it orders.[101] Once more, any conceptual, logical unity is lacking.

These forms of general representation are all modes of preconceptual, prediscursive intelligence. Although general representations have universality, that universality is conditioned by the intuitions from whose internalization they derive. The generality of these representations remains figurative, lacking the independence from intuitive content that separates concepts proper from imagery. Accordingly, the different types of general representation can be produced and apprehended by some dumb animals, prelinguistic children, and mentally handicapped adults who neither speak nor think. So long as they intuit, recollect, and productively imagine, they are able to generate general representations and engage in behaviors that depend upon them.

To understand how normal children can advance from general representations to language and thought, it will be important to examine how general representations are distinguished and employed, as well as how their conditioned, figurative character still allows them to provide a key enabling condition for moving from imagery to word and concept.

A very young child, Vygotsky observes, will use general representations as a means of remembering, providing a summary of concrete recollections, rather than as a concept with a "logical" structure exhibited in judgment and syllogism. The general representation will initially combine what is recalled of concrete instances rather than provide a means to think. The situation will be very different once an individual has acquired language and concepts, for then memory can serve as an occasion to think.[102] Before the emergence of discourse, however, general representations will comprise either abstracted figurative content common to recollected instances or "complexes" of recollected images encompassing concrete groupings of family resemblances. This does not involve organizing instances under concepts that can be defined and placed in an abiding web of inference. It instead consists in an empirically contingent, subjectively associated connection that will disappear unless intelligence continues to keep it in mind or internalizes it in the unconscious trove of memory.

Significantly, these abstracted contents and concrete complexes can be compatible with concepts even if they lack independent conceptual character. A general representation of particular concrete instances may not exhaust the extension of a certain genus, but those instances may still all fall within it, as a common image abstracted from a plurality of perceived roses may be contained within but not exhaust the domain of flowers. This possible congruence will play a crucial role in the emergence of thought and language from figurative representation. It will allow, for example, a child to name a rose a "flower" or "plant" without yet conceiving the general meaning of the latter.

Before discursive intelligence arises, the production of general representations already informs the perception of individuals who can apprehend what they perceive in relation to the figurative abstractions and complexes that their intelligence now possesses. This allows for insight to guide behavior beyond the limits of habit and trial and error. From now on, intelligence can attend to associations that it fashions in imagination without having to wait for repetitive intuitions and the reinforcement of experience. This not only opens up new possibilities of understanding and activity but transforms the scope of memory.

3.3.3 Figurative memory

Whereas recollection retrieves intuited content that can be reencountered in natural regularities given independently of mind, associative imagination fashions new relationships of images that cannot be expected to be found in new intuitions. Associative imagination produces an imagined nexus, whose contents may be too fantastical to ever be intuited as an objectivity directly confronting intelligence. Consequently, what associative imagination has fashioned will not get automatically recalled through the occasion of similar intuitions.

Nonetheless, the products of productive imagination will be "internalized" and enter mind's unconscious trove of representations. This is so because, like any other imagery, their representation already places them within the arena of imagination. Just as intuitions are automatically internalized just by being in the possession of intelligence, so the new imagery of productive imagination gets automatically internalized by being apprehended by intelligence as its own production. This internalization renders this imagery an unconscious, potentially retrievable representation that mind can freely reimagine with other images in imagination's own time and space.

The stage is thereby set for figurative memory to bring to mind contents extending beyond the re-presentations of recollection. Just as habit renders feeling an abiding universal disposition and perception transforms sensations into a thing to which properties belong in common, so figurative memory imbues intelligence with universal content. Relating recollected intuitions to associations of images, figurative memory renders those associated images representations under which a plurality of intuitions is subsumed. Those representations are thereby made universal, although their content is still conditioned by the given content of the images.[103]

Since, however, figurative memory cannot rely upon occasioning intuitions, as does recollection, what will enable mind to remember the products of associative imagination after attention has turned elsewhere? This question is of key importance, for the development of semiotic imagination depends upon recalling general representations and associating them with some intuited content that serves as either the symbol or sign of these general representations. Unless a general representation can be brought to mind, intelligence cannot associate any symbol or sign with it.

In the case of symbols, the problem might seem less stark, since a symbol is distinguished from a sign by containing a represented content connected to that of the general representation it symbolizes. So, for

example, the image of a lion can symbolize courage or royalty, given the lion's character as unchallenged ruler of the savannah. For this reason, the occasion of intuiting a lion might bring a general representation of courage to mind, just as repeated intuitions automatically engage reproductive imagination to re-present previously intuited content.

Whether the general representation is expressed by a symbol or a sign, intelligence need only apply the same spontaneity to recall it as to produce it in the first place. Since the general representation exists in the associating act sustaining it, bringing it to mind involves undertaking, at least in part, the same mental movement with which intelligence initially apprehended it.[104] Consequently, as long as intelligence can recall images, it can always associate them so as to regenerate some general representation and then connect that general representation with some intuition that symbolizes or signifies it. It may take successive attempts for intelligence to reproduce the same association that it has previously executed, but attention can always shift its focus to yet another common image aspect, try associating again, and then connect the relocated general representation with some intuited expression.

Moreover, insofar as general representations can be associated both with multiple images and multiple general representations, the more associations intelligence has made, the more resources mind has with which to recall any particular general representation. As William James observes, we may have a distinct feeling that we have not found a general representation that we are trying to recall thanks to traces of past associations that we are not yet able to retrieve in full.[105] If a general representation has been imagined in connection with multiple other images and general representations, intelligence can reach the former by running through the latter connections successively until it succeeds in recovering the complete past association.[106]

In any case, reenacting the same association that sustains a general representation is not identical with *remembering* that general representation. For the representation to count as a memory, intelligence must recognize it to re-present a general representation that mind associated before. This relation to a prior instance requires distinguishing the temporal ordering of the two like representations and noting their similitude. For this reason, recognizing a tune to be the same melody one has heard before is not equivalent to repeating the mental event in whose associating act that melody was originally apprehended.[107]

Remembering a general representation thus involves a double association of its own. On the one hand, the recalled general representation is associated with the prior general representation it re-presents.

On the other hand, intelligence recognizes the prior general representation to have come before by associating its representations in respect to the temporal position of their occurrence. In both cases, intelligence employs its powers of attention and combination, setting the stage for remembered general representations to be signified.

Does figurative memory distinguish "human" memory from dumb animal recollection? Hans Jonas suggests this is the case, observing that subhuman animal recollection is always connected to actual sensations. These may be current intuitions that occasion the recall of prior intuitions sharing similar qualities or current feelings of appetite that recall prior intuitions, facilitating a repeated course of behavior to achieve the desired satisfaction. By contrast, human memory can exceed such sensation-dependent recollection. Human memory has at its call not only the reproductive faculty of imagination, but the productive power to abstract the remembered "eidos" in similar images and ponder it, either alone or in combination with other images that intelligence is free to put before itself.[108]

Admittedly, the production of general representations provides for such an expansion of memory beyond the recollections dependent upon given intuition and appetite. Since, however, the "eidos" in question is a shared figurative content rather than an insensible thought, the recollection of general representations does not involve discursive thought. Figurative memory may be the basis for the externalization of general representations in image artifacts, but figurative memory remains confined to a world of images, which only verbal memory will transcend. The divide between dumb animal and "human" memory will be unequivocally breached solely when semiotic imagination allows for words to be remembered.

Nonetheless, in anticipation of addressing that psychological watershed, one can wonder whether minds that produce and recall general representations are ready and able to imagine, express, and use signs. If so, could figurative memory and verbal memory ordinarily be found together, leaving both beyond the intelligence of dumb animals? Or can the capability to imagine, recall, and externalize general representations be within the orbit of certain animals which will never speak or think?

3.3.4 The externalization of general representations: the psychology of figurative depiction

Insofar as intelligence is embodied in an animal organism, its living mind possesses the psychological endowments for acting upon the

world in view of its own representations. Accordingly, the individual who produces general representations in imagination is capable of externalizing its imagined associations. This can be done in expressions of the individual's own body, such as gestures and sounds, as well as in altering other things by marking them, shaping them, or otherwise changing their perceivable appearance. Graphic works perceived by sight may seem to predominate, but even lowly touch can register inscribed markings or vibrating voice boxes to intuit an externalized representation.[109] Whatever the medium, these externalizations can be associated by intelligence with singular or general representations.

Such expressions of intelligence differ in both form and content from the expression of feeling in which the psyche engages. Feelings are expressed by the psyche immediately, as well as without any prior intention. The embodied psyche exhibits its feelings in outer physiological manifestations, including changes in complexion, posture, and gesture, but these externalizations are not consciously undertaken. Although individuals whose psyches have become accompanied by consciousness may be conscious of such expressions of feeling, this awareness is not ingredient in them.[110] Individuals may blush, wrinkle their brow, yawn, breathe heavily, and otherwise show their feelings without purpose or notice. By contrast, when intelligence expresses its representations, the individual is conscious of its body and the world in which it acts, as well as aware of its own images and its own production of their externalizations. The externalization of representations does not happen to intelligence in the way in which outer manifestations of feeling occur in the embodied psyche. Figurative expressions are consciously made with awareness that what is externalized is itself a product of mind. This difference in form is accompanied by the fundamental distinction in content that what intelligence externalizes are not just feelings but representations. Consequently, to experience figurative expressions as such one must comprehend that they are externalizations of not mere subjective feelings but representations that are both subjective and objective, something imagined as well as about something confronting intelligence.

The externalization of representation allows for a "nonnatural" memory, where artifacts such as notched sticks, knots, or graphic figures aid the recall of specific representations. Whereas "natural" memory recollects images of past intuitions on the occasion of similar experience, this nonnatural memory is elicited by the production of bodily expressions and artifacts that can be perceived at will so as to recall representations that intelligence associates with these factors.[111] When

the representation to be recalled is a general representation, the stage is set for these figurative aids to convey contents common to a plurality of images and intuitions. Since the same figurative aids can themselves be intuited by a plurality of individuals, they present a potential resource for the communication of general representations.

Although the intelligent individual can make alterations in the appearance of external objects that have no connection to imagined representations, once productive imagination makes possible the association and generation of images in the inner awareness of intelligence, individuals can engage in pictorial expressions whose fabrication can be understood to *represent* images or associations of images and the objects these depict. This requires sufficient motor control for the intelligent individual to govern bodily movements by the requirements of image externalization. Whether or not the image in question corresponds to any given objects, the production of a corresponding image artifact depends upon productive imagination being able to guide behavior.[112]

The products of such figurative expression must be apprehended as more than ordinary intuited objects to convey their pictorial function. The individual who makes pictures to represent some particular object, image, or general representation can certainly recall having made these graphic expressions in connection with the mental contents they externalize. Moreover, to the extent that the externalized image *represents* an imagined object, it will not be identical to that object but have something about it that indicates that it is something different that still conveys what it represents. Apprehending this representative presence requires intelligence, since only intelligence is aware of its mental content as being both objective and subjective. Unlike the preconscious psyche or consciousness, intelligence can grasp what it intuits, represents, or thinks to be both a determination of objects and a determination of its own mind that it connects to those objects.

The situation is somewhat different when an intelligent individual confronts an object that it has not marked or fabricated to externalize its own representations. In this case, what is perceived must have something about it that indicates its representational character without the observer being directly aware of the representational intention of the maker of the image artifact.

The figurative function can be conveyed by the distinctive context in which the externalized representation is framed or by features of the pictorial object that suggest its representational employment. For example, the representative factor can be set off from its surroundings in an artificial manner indicative of its pictorial role.

In place of or in addition to such framing, the figurative factor can be so designed as to have features that are present only on the perceivable surface, as a drawing need only be on the side of an object facing potential viewers. Moreover, insofar as the image artifact has a fixed, inactive presence,[113] any representation of a changing, active entity must extract a very partial, isolated, momentary view, divorced from the dynamic background interactions engrossing what is represented.[114] Such artificiality is indicative of how the representative artifact is not a duplicate of what it conveys but rather a mere externalized image of it, whose surface appearance is all that matters. Only by showing itself to be such an incomplete replication of what it represents can the image artifact be and be apprehended as a "mere likeness."[115]

Further, the externalized representation does not have the direct biological utility of animal artifacts, such as nests, dams, or territory markings, which serve vital purposes like nutrition or reproduction. The fabricated image no more alters the environment in the service of biological need than it advances the life processes of the living mind that produces it.[116]

Apprehending the image artifact as such by means of context, figurative design, and biological uselessness is not a matter of direct perception. It depends upon distinguishing and associating the object that is the image artifact, the representation it externalizes, and what this representation re-presents.[117] To do so, intelligence must associate its intuition of the pictorial object with the recalled representations that are common to what serves these considerations. If a mind is incapable of doing this, it is no more able to externalize images than to recognize them for what they are.[118]

Pictorial representation can be regarded as a precursor of both symbolic and semiotic representation, and it will be important to see what intelligence must add to it to achieve these further forms of representation, so crucial for the further development of thought and language. In so doing, one should recognize that drawing can subsequently be undertaken to represent verbal expressions and the thoughts they convey. Then drawing can function as a graphic speech predicated upon spoken, if not written, language.[119] Here, however, at the stage of preverbal representation, figurative depiction has only images and general representations to externalize.

Despite this limitation, Hans Jonas maintains that pictorial representation is a work of distinctly human intelligence, a work of which dumb animals are incapable.[120] Since Jonas, like many others, tends to identify

human with discursive intelligence, he is presenting pictorial representation as something that can be made only by individuals who have linguistic and conceptual capability. If this is true, the presence of figurative representation can count generally as evidence of the existence of discursive intelligence wherever and whenever it may emerge in human or nonhuman rational species on our lonely planet or on other planets far, far away.[121]

How could figurative representation be made only by individuals who are capable of language and thought? If picturing is an externalization of either singular images or general representations, which retain a figurative character, why should it have any necessary connection to discursive thought?

There would seem to be no requirement that those who figuratively externalize representations simultaneously possess thought and language. Why should drawing be beyond the ability of preverbal children or of adults who have lost speech and thought through illness or injury but can still recollect, imagine, and associate representations? Moreover, what could prevent dumb animals from externalizing images as long as they too can intuit, recollect, and associate images and possess the motor facility to mark or shape external objects?

Even if one grants these options, one might still wonder whether any individual children, impaired adults, or dumb animals capable of making figurative representations could lack anything they need to acquire language and thought. If the capability for linguistic competence was provided by what it takes to externalize general representations, then Jonas could be vindicated. It would then be true that only individuals who are *capable* of thought and language would be able to externalize representations, whether in graphic products, sounds, or gestures. Dumb animals, which cannot become discursive due to the psychological limits of their species being, would then be unable to make representations. Accordingly, drawings would testify to the existence of at least potentially discursive individuals.

How could this be so? Jonas suggests that making representations requires a power of abstraction because figurative externalizations have a general character. They share the content of the internal representations they make manifest, which, as we have seen, are already relatively abstract by having been extracted from the individual context of a given intuition. Moreover, the difference between image and what it conveys enables the same image to represent indefinitely many objects.[122] Consequently, intelligence cannot produce drawings unless it is aware of

general representations, which associate grouped images either through the abstraction of shared image content or through the aggregation of figurative family resemblances.

On Jonas's account, dumb animals manifest their inability to apprehend general representations by being unable to recognize the characteristic similitude of representation. A dumb animal can distinguish between sensible sameness and otherness, so that when a bird mistakes a scarecrow for a man, this is just a matter of insufficient sensory discrimination. What the bird cannot do is recognize that the scarecrow is an image of a man, for that requires not just separating sensory sameness and otherness but apprehending the combination of identity and difference contained in the relation of representation that an image artifact exhibits. The externalized representation is both different from what it conveys and from the image it presents. Yet it carries that image to depict what it conveys. All this must be apprehended at once in order to apprehend an image artifact as such.[123]

What makes this task something beyond the ability of dumb animals is that the universality of the externalized representation is allegedly a matter not of perceptual sameness but of a conceptual domain within which all possible likenesses fall, enabling them to remain recognizable images of the factor in question.[124] Perception, as Jonas himself acknowledges, already involves several constitutive "abstractions" that apply to dumb as well as discursive perceivers. First, a perceiver apprehends an objective thing only by disengaging from the affective feeling of its encounter with objects and letting the sensation count not just as a modification of the psyche but as a determination of something other confronting the perceiving subject. Further, the perceiver can apprehend things over time only by "abstracting" from the alterations of successive sensations and engaging in what Kant described as a synthesis of recognition. This allows the object to retain its identity across the flux of appearance, an identity retained through a range of sensible pattern transformations, each of which presents an image of the same object.[125] With the producing and apprehension of externalized representations, these abstractions, ingredient in any perception of abiding things, are supplemented by something nonsensible in character. This nonperceptual dimension in the abstraction in image making involves two correlative abilities that dumb animals supposedly cannot have. On the one hand, it involves the ability to grasp the form, or eidos, of things, which is distinguishable from their individual sensible beings and comprises the ideal link between the physical carrier of the image of the image artifact and the imaged object. On the other hand, it involves the ability to

exercise "eidetic control of motility" in externalizing such form in image artifacts.[126] If such essences are genuinely intelligible rather than sensible, as Jonas suggests, then the power to represent them in image artifacts would imply the power to think such insensible essences, the linguistic capability needed to express thought, and the ability to act under the control of discursive thought. The mental separation of intelligible form from sensible matter would therefore be a specifically "human" function, which dumb animals cannot perform. They can apprehend present things, distinguish degrees of perceptual likeness, and use their recollection and imagination to recognize common sensible properties and sensible object-kinds. What they cannot do, Jonas insists, is make the abstracted property or the object-kind an object of recognition.[127]

General representations, however, are conditioned universals, bound to the extracted or collected figurative contents that they associate.[128] General representations cannot express intelligible essences as such, and therefore the production and externalization of general representations need not involve thought or language. Contra Jonas, the generality of an image is not equivalent to the generality of the name.[129] As we shall see, it is only with the emergence of semiotic imagination that intelligence can leave images behind and behold insensible form.

If the abstraction in general representations does not require thought and language, does it nonetheless guarantee that those who externalize general representations are capable of discursive thought? In and of themselves, general representations depend, as we have seen, on productive imagination that operates without symbols or signs, let alone the nonfigurative thoughts that words can express. It is far from evident that imagining and then externalizing general representations provides intelligence with everything it needs to engage in discourse. Nonetheless, it is hard to deny that confirmation of image making by dumb animals is elusive at best.[130]

Is something more at work in externalizing general representations? Jonas suggests that the power of abstraction in image making is connected to an ability to make objects that have no direct biological use. This ability, he maintains, signifies that the image-making individual has ends that either go beyond mere biological imperatives or at least serve these ends in ways far removed from the immediate utility of instrumental means.[131] Could this be something exclusive to discursive intelligence?

In producing general representations, intelligence certainly does exhibit a relative autonomy from the content of given intuitions. Intelligence is thereby freed from merely recollecting what it intuits,

since productive imagination lets mind attend to shared extractions and novel combinations of images. This freedom, however, is relative in that the abstracting of common marks and the grouping of family resemblances still rests upon figurative material deriving from recollected intuitions.

So, too, the making of objective figurative representations manifests a relative autonomy from any need to behave in direct response to the immediate stimuli of current intuitions and the immediate drives of biological need. Image making is not merely a reaction to what intelligence confronts; rather, it is an expression of products of the imagination.

Moreover, in producing an externalized representation, intelligence must exercise a dual freedom of selection. On the one hand, intelligence must select an external medium of representation that will address a certain mode of perception, such as touch, hearing, or sight.[132] On the other hand, intelligence must choose which aspects of the represented object to present in the expressly "incomplete" appearance of the image artifact.[133]

Furthermore, whatever aspects are selected by image-making intelligence may be altered to serve the purposes of expression for which the economy and idealization of depiction signal that an artifact is an externalization of a general representation.[134] The resulting freedom from mechanical duplication and conditioned response remains relative, for expression still has the form of representation, which binds it to figurative content. Nonetheless, image making, like imaginative play, does involve an important step beyond the confines of instinct and habit towards the emergence of rational autonomy.

Jonas may well be right to celebrate the respective relative autonomies of the imagining and externalization of general representations. Without what he calls the "eidetic control of imagination, with its freedom of internal drafting," there might indeed be no discursive thought, just as without "the eidetic control of motility, with its freedom of external execution,"[135] the possession of rational intelligence would have no practical significance. To show that this is the case, however, requires unraveling the further developments of imagination that can provide the bridge from general representation to the acquisition of language and thought.

This leaves us still grappling with the question of whether image making, as well as imaginative play, can be engaged in only by individuals who can advance to linguistic and conceptual competence. If we come upon pictorial representations, can we be certain of having

encountered the traces of beings who also name things and with whom we can in principle communicate in language? Or does the presence of artificial likenesses only testify to potential rather than actual discursive thought?[136] Once the further psychological path from representation to thought has been unveiled, we can look back and determine whether it must be open to any intelligence that can externalize general representations.

3.3.5 Transition to symbolizing and sign-making productive imagination

If intelligence could do no more than form, associate, and remember general representations, both language and thought could never emerge. Mind would be limited to imagery, precluding any development of a reason that could grasp concepts in and of themselves and conceive objectivity in all its universality and necessity. Individuals might still communicate by gesture and picture, but no conceptual truth could be apprehended, no discourse about concepts or anything nonconceptual could be exercised, and any philosophy of mind would lie beyond the ken of intelligence. Animals of different levels could intuit and imagine the world in all its empirical family resemblance and some could learn to navigate their environment's imaginable patterns without depending solely on instinct. Apprehended objectivity, however, would lack anything in which universality and necessity could be revealed and known.

Our very theorizing precludes generalizing such a predicament, since doing so would bar thinking about mind. Nonetheless, minds certainly can be restricted to imagery as a passing stage of mental development or as a rigid ceiling mandated by the species limitations of dumb animals or by injury to a previously discursive individual. Still, the road from imagination to thought is already paved by the workings of figurative representation and intuition. These resources need only to be mobilized in the proper way, and this is something mind achieves by the production of signs in the activity of semiotic imagination.

Once associative imagination produces general representations that can be retrieved by figurative memory, intelligence is poised to perform the symbolization with which semiotic imagination first arises. Through prior associating of images, intelligence acquires a trove of general representations that are ready to be brought to mind by figurative memory. All that remains to be done is for intelligence to associate some general representation with particular aspects of some images, rendering these aspects the figurative expression of that general representation.[137]

Although general representations already contain a sensible content, deriving from their relation to the images they associate, the new connection that intelligence now forges gives the general representation's own association a distinct figurative expression in the image aspect that serves to symbolize or signify it.

To begin with, the connection resides in the mental activity of intelligence and is only immediately manifest to the same individual who imagines the association of general representation and image aspect. The paired representations may or may not share content, but if they do, the relation in hand is symbolic in that the image aspect representing the general representation possesses some of the same content. This allows the associated image aspect to symbolize the general representation, for what distinguishes a symbol is that it has a content contained in what it symbolizes. For example, a lion can symbolize royalty, for the lion is the ruling predator of the savannah. By contrast, if the associated image aspect has nothing in common with the general representation, it can signify the latter only in the manner of a sign, where the connection is entirely extraneous to the terms involved. In that case of nonsymbolic, semiotic reference, the associated image aspect has a purely arbitrary connection to what it signifies. All that connects it to the general representation is the act of semiotic imagination, which initially is manifest only to the individual who performs that association.

The image expressing some general representation can, in principle, involve any of the modalities of sense. Due to the physical differences of the various sense modalities, however, some types of sensations better serve symbolization and signification and the further demands of communicating. Smell and taste, for example, offer fewer possibilities for the quick and continuous spatial and temporal discriminations that a series of sounds or sights can provide. Further, those sensations that can be sensed at a distance, namely sound and sight (or more generally, all electromagnetic sensations), can be remotely communicated, whereas sensations requiring direct contact with their objects (taste and touch) can have only an immediately proximate audience. Hence, it is no accident that visual and auditory expressions predominate in symbolization and signification addressed to others.

3.4 Semiotic representation

The mental production of symbols and signs is a process of representation that must precede thinking and language because no discourse can be engaged in without having at hand these fruits of semiotic imagination.

Accordingly, symbol and sign production must initially occur without involving discursive thought. Once thinking and language emerge, symbolization and signifying can refer to verbalizations and concepts, but before this is possible, symbols and signs must be made available without thought or speech.

If the mental fabrication of symbols and signs were treated instead as falling within the actuality of thinking and language, a hopeless circularity would ensue. The material of discourse could not be furnished without involving what that enabling resource first brings into being. For this reason, symbol and sign production cannot itself comprise thought or speech. Thinking and language may require signs, but semiotic imagination must begin producing signs with the prediscursive resources of general representations and imagery. The fulfillment of this requirement makes intelligible why and how dumb animals, as well as prediscursive children, can signal one another without employing language or concepts.

Original sign production may proceed without thought or speech, but it cannot occur unless mind has intelligence, not just consciousness and a psyche. Symbol and sign production both require intelligence due to the duality of connotation and meaning basic to semiotic representation. Symbols and signs both provide imagery that gives expression to a general representation. That imagery has a connotation, a represented content of its own by which it designates a meaning distinct from itself. Neither a symbol nor a sign can be apprehended as such unless this dual role is recognized. If not, the would-be symbol and would-be sign become reduced to images, expressive of nothing but themselves until mind utilizes them for further associations.

Intelligence is necessary for semiotic apprehension because intelligence is aware of what is both objective and subjective, enabling mind to apprehend the relation between its own images and what they represent. The psyche may provide an embodied subjectivity that can express its feelings, but that expression is not equivalent to an understanding of what it means. Consciousness may add awareness of the configuration of the symbol or sign, but consciousness does not comprehend the configuration in relation to its meaning. In order for mind to apprehend that semiotic connection between signifier and signified, intelligence must be enlisted, for intelligence always involves the awareness of some unity of subject and object. This implicitly rational awareness[138] allows intelligence to apprehend how symbol and sign are both unities of sense and meaning, just as inward as outward.

Symbolization and sign signification both give expression to a general representation rather than to a unique image.[139] If that were not the case

and the signified representation were exclusively singular, nothing in the relation between sense and meaning could be repeated. The association would be a purely fleeting private association, connecting the intuitable content of the sign's or symbol's configuration with the unique image it expresses. The established link could never be communicated or recalled, for the matchless, unrepeatable character of the expressed meaning precludes the same mind or any other from making the *same* association again. Only a general representation, whose common content can be recognized in multiple images, can provide a retrievable, communicable meaning, fit for symbolization and signification.

This generality of meaning applies even to symbols and signs that signify some individual, such as the graphic sign of the singer once called Prince and proper names more generally. In each case, the meaning expressed by symbol or sign is something that can be repeatedly signified by different exemplars of the symbol or sign in question while referring to an individual in all phases and relations of its being. Consequently, the meaning has a general character common to each of its repeated and repeatable representations. When signifying a unique individual, a sign indicates an identity that remains at one with itself in all the different moments of that individual's existence. Even if a sign were to signify a unique moment of a unique individual, that instant would still be self-identical in reference to all the various relationships by which its spatiotemporal location can be determined and tied to the individual to which it belongs. This generality is what allows multiple interlocutors to refer to the same individual using instances of the same sign.

This inherent generality in semiotic representation need only be purified of the remnants of intuited imagery to obtain a sufficient vehicle for language and thought.

3.4.1 Symbol and symbolization

Symbolic representation, the first and most elementary form of semiotic imagination, exhibits the greatest bondage to imagery and the greatest limitations for communication. This is so because the representation serving as a symbol has an image content that is intrinsically connected to that of the general representation to which it gives expression. Like a sign, the symbol does double duty, both presenting its own configuration and indicating a general representation distinct from itself. The symbol does this most directly insofar as what the symbol exhibits presents something contained in the representation of what it symbolizes. Mind need not entirely abstract from the symbol's own

configuration in associating its meaning. The symbolized meaning is rooted in the given content of the symbol.

Nevertheless, the difference between symbol and symbolized representation necessarily introduces an element of ambiguity that intelligence must overcome to successfully symbolize anything at all. Insofar as the symbol has a content contained in a general representation that is still distinct from it, that general representation must have other features lacking that direct connection. Moreover, the symbol itself, as something individual, must have a plurality of features of its own in order to be not just an abstract universal. Consequently, when, for example, the image of a lion is utilized as a symbol of royalty, this symbolization depends upon the appropriate feature of the lion being singled out (that of being top predator of the savannah) and then related to the correct aspect of royalty that fits (being the apex of rule). The image of the lion does not itself carry through any selection, any more than does the general representation to which it is supposed to be related. Both the symbol and what it represents contain a manifold content whose diversity does not identify which of its elements is to be singled out. The individual who symbolizes some general representation with some image must be aware of the aspect of the symbol that symbolizes, apprehend how the general representation it symbolizes is connected to the symbol in virtue of some feature of the general representation, and be aware that the individual's own intelligence is making that association. Without all of these apprehensions, imagination cannot operate symbolically.

To begin with, these relations of symbolization exist only as long as the individual intelligence is performing the associations in which they consist. That performance contains within itself awareness of the symbolization it comprises, for the individual represents an image as a symbol only by apprehending the connection it makes between that symbol and some general representation. Once the ingredient associations are performed, however, intelligence can internalize its symbolic apprehension for future recall. Intelligence can then regard the remembered symbolic relationship as something carrying over to all further representations of the image that has served as a symbol. This commitment to symbolize, however, remains purely private and subjective so long as it consists in the subjective resolve of one mind, without being externalized in some perceivable manifestation that other intelligent minds can apprehend to symbolize a factor they perceive in common.

In order for symbolization to be communicated, the symbolizing intelligence must produce an intuitable factor that can somehow be recognized as a symbol by others. Since a symbol gives expression to

something other than itself to which its content has some intrinsic connection, the symbol must be presented in such a way that others do not take it just for itself but apprehend that it expresses a distinguishable meaning. This can be achieved only by providing some perceivable feature or context that indicates the symbolic use of the intuitable factor. Simply fashioning something or putting some natural object or artifact in an unnatural or novel setting is not enough to secure its apprehension as a symbol. After all, found things and artifacts can have manifold other functions besides symbolization.

The challenge of conveying symbolization is exhibited in the production of externalized representations, such as drawings, which may manifest their pictorial function by presenting an image only on an observable surface, by having no immediate utility, and/or by being framed in a fashion that indicates their representational character. Although the pictorial externalization of representations may be *part* of the production of an intuitable symbol, a drawing is not a symbol unless it further signifies something different from what it pictures yet still has something in common with that pictured object. To do so, the externalized image must have something about it that makes manifest that it is not just a picture but is a *symbolic* representation.

This might be indicated by stylizations of the feature of the symbol that corresponds to a salient aspect of what it symbolizes. Such deviations from literal representation can comprise a recognizable symbolic convention whose figurative abbreviations and alterations signal the configuration's symbolic function.[140]

Even then, however, the intuitable factor cannot unequivocally insure that its symbolic function is apprehended by others, for it can always be regarded as just a tangible entity or a stylized representation of something it resembles. Additional clarifying contextualizations may enable others to recognize the factor's symbolic function by setting it in some observable connection to what it symbolizes, but prior to the advent of language, there can be no guarantee that any gestures or figurative framing remove all uncertainty regarding the role of that intended symbol.

Even if a perceivable contextualization makes evident to others the symbolic use of an intuitable factor, what it symbolizes still remains fraught with ambiguity. Knowing that the factor serves as a symbol establishes only that some property of that factor is related to some analogous feature of some general representation. Since the intuitable factor is an individual entity, it cannot fail to have manifold features, leaving undetermined which one serves a symbolic role. Moreover, even if it

were settled which feature of the symbol expressed the general representation, this would still leave undetermined which general representation it conveys. Since the shared feature need not be unique to any general representation, there may be indefinitely many possible candidates for symbolized content. Only further communication can address these ambiguities, but an intelligence restricted to symbolic representation can never remove them entirely.

Nonetheless, converging apprehensions of the symbolic meaning of an externalized image can occur, and individuals can further internalize their common apprehensions in memories of shared symbolic representations. These can then be associated with other intuitions and images, including other symbols. All of this can occur without words or concepts. What is required to move from symbol to language is one further intermediary step – the production of signs.

At this juncture, it is worth noting that the production of symbols utilizes no further mental capabilities than those mobilized in the externalization of general representations in image artifacts, such as drawings. Both drawing and external symbolization employ the same activities of imagination and the same motor facilities. Not surprisingly, it is no easier to find examples of dumb animals that produce symbols than to find those that make pictures. Admittedly, animals may signal one another to mark territory, warn of predators and prey, or lay claim to reproductive partners. These signals, however, are more expressive of urges than representations of objects or symbolic designations.[141]

In symbolization intelligence does attend to what the likeness of symbol and symbolized general representation is. Does this involve what Jonas identifies as the specifically human capability, that of separating form from matter, on which conceptualization depends?[142] It would, if the likeness in question were itself distinct from the figurative content of symbol and general representation. That is not the case in symbolization, since the configuration of the symbol contains the same sensuous content that is part of the general representation it conveys. Only with the sign does that figurative connection fall away. Nonetheless, dumb animals that can deal only with a present object and its family resemblances are unable to recognize symbolic connections, for these relate symbol and symbolized without rendering them members of the same kind. The same inability applies to very young children if, as Vygotsky observes, they cannot detach the field of meaning from their visual field, finding what they see to be all that can be meant.[143]

These differences indicate that although the relation of drawing and symbolizing does not yet confirm Jonas's claim that pictures give

evidence of potential discursive thought, it takes us one step closer to resolving that tie.

3.4.2 Sign and signification

Imagination advances from symbolization to sign production by expressing a general representation with some intuitable configuration whose figurative content has no intrinsic connection to what it signifies. Whereas the symbol shares some imagery with what is contained in the general representation it symbolizes, the sign's own figure is completely extraneous to its meaning. Accordingly, the connection of sign and signified resides entirely in the arbitrary association that intelligence performs in making some figurative content serve as a sign for some general representation. Apart from that initially subjective association, nothing connects the two terms of the semiotic relationship. Mind knows that an intuitable thing or image is the sign of a general meaning insofar as it apprehends the act by which it gives that factor the sense or connotation it immediately possesses in its own configuration as well as the meaning it represents. That the factor is a sign cannot be deciphered by separately examining its own figurative content or that of the meaning it signifies. Instead, the sign can be apprehended as such only by recognizing the purely arbitrary association in which it figures.

When imagination first connects sign and signified, these two poles have their semiotic character only in and through an associating that an intelligence comprehends to be its own activity. That semiotic activity is directed, in the first instance, to intelligence's own inner, purely subjective articulation of meaning, which is transparent to itself, both in the first association of the intuitable configuration with its meaning and then in subsequent recollections of the sign's image in association with the general representation it signifies.

Only through the production of the sign as an external intuitable gesture or product of activity can the signifying activity of intelligence be transmitted to other intelligent individuals, who then can recollect the sign as an image. This prospective audience faces the challenge first of recognizing that the sign is a sign and then somehow apprehending what it signifies. For this to occur, the associating activity of the individual's semiotic imagination must make itself manifest to others; this cannot be achieved simply by the display of the sign itself. The same resources employed to manifest the symbolic function of a symbol can be enlisted, with the added challenge that the configuration of the sign has no inherent connection to any image aspect of what it signifies. Once more the factor signifying something other than itself

must exhibit that purpose through its isolation from immediate use as a means of satisfaction or an instrument for altering other things. Again, the display of the signifying configuration on only the intuitable surface or side facing its audience might indicate its communicative role. So too might contextual framings suggest that the signifying factor is not just itself but something associated by an intelligence with some general representation. The great difficulty to be surmounted is for the contextualization to relate the sign to something else with which it is arbitrarily associated.

Although the sign may serve to indicate an object to another, it is not equivalent to the indicative reference of pointing. Pointing directs attention to some factor to which its indicative gesture is connected at some place in time. As such, pointing operates in the same way no matter what factor is indicated and when and where the pointing occurs. By contrast, the sign is not an all-purpose indicator that applies to any and every object to which its producer refers. Rather, the sign is a particular configuration distinguished from every other that might serve to signify something else. As such, the sign has a specific identity and refers to some specific meaning, even if that meaning does not share any figurative content with its sign. Moreover, the sign signifies a general representation, not just an intuited object that is here and now. The sign, like a symbol, has a meaning that is inherently reproducible and recognizable in plural encounters and imaginings. In both these senses, the sign may be said to fix indicatory gestures, giving them a specific meaning that has an enduring and repeatable reality.[144]

What most crucially distinguishes sign production from all prior deeds of imagination is the sign's liberation of meaning from the figurative connections of symbolism. This emancipation comprises a key step towards communicating imageless concepts, introducing the problem of securing meaning without shared imagery. The sign poses this difficulty, however, in an initially incomplete manner, for the sign has an intuitable configuration that relates to a general representation that is still tied to figurative content.

3.4.3 Sign use versus tool use

The production and use of signs represents an important watershed in the development of intelligence, one that bears comparison with the mastery of tool use. Both dumb animals and young children are able to use tools without being able to produce signs. Moreover, as Köhler's experiments with apes famously indicate, apes are able to use tools only when the instrument and its object are both in view. Tool use is directly

related to the presence of the objects on which tools are employed. Sign production, by contrast, requires intelligence to generate a configuration that has no intuitable connection to what it signifies. To produce something that is a sign, imagination must take a leap beyond present intuition and forge an association that depends entirely upon its own semiotic activity. The sign signifies without having to physically interact with what it means, whereas the purpose of tool use lies in a very physical transformation of what it works upon.[145]

The emancipation of sign production from figurative connections, either present or recollected, introduces a freedom of operation that can then transform the practical activities, including tool use, of the signifying individual. Whereas the ape, on Köhler's account is "the slave of its own visual field,"[146] the sign-producing individual can attend to meanings that transcend the immediate, concrete situation confronting it.[147]

Sign use allows individuals to express to themselves and others a range of general representations that lie beyond their current circumstances. These meanings can then serve to stimulate imaginings (and eventually thoughts) that motivate action detached in space and time from the desires and impulses elicited by what is here and now. Sign production facilitates a preliminary stage of planning in the arena of semiotic representation, from which action can follow that surmounts the impulsive, unpremeditated efforts of animals that cannot signify.[148] Whereas the "elementary" functions of intelligence are determined by external stimulation from the environment, sign production fosters a new, higher domain of self-generated stimulation, which can give rise to action liberated from the confines of "behaviorist" compulsion.[149]

Of course, once individuals interrelate so as to establish a communicable meaning for their signs, these become central means of intelligent interaction. Tools, by comparison, largely remain means of transforming things. In this respect, the tongue, as principal instrument of signifying, is not just the tool of tools, as Dewey suggests, but something surmounting technique with the intersubjectivity of shared significance.[150]

3.4.4 The public communication of symbol and sign

Symbols and signs can be communicable only if the mind that imagines them gives them some external observable manifestation that is recognizably correlated with what they symbolize and signify, respectively. To do this, mind must first produce an intuitable factor that is to figure as a symbol or sign, something that can be done only by using the

capabilities of its living being as an embodied psyche, consciousness, and intelligence. The intuitable factor can be some observable modification of mind's own body, some external natural thing that is so employed, or some artifact that the living individual finds or produces. Whatever the case may be, the perceivable manifestation must be identifiable as a symbolization or signification of some shareable meaning.

To be recognized as a symbolic or semiotic representation, the observable factor must thus be understood not only to possess its perceivable configuration but also to be associated with a meaning by the mind that produces and/or employs this factor as a symbol or sign. Those who comprehend the intuitable factor to be a symbol or sign must therefore recognize not only that the producer/user of that factor perceives the same configuration they do but that they imagine it to convey the same meaning that that individual associates with its presumed expression.

This recognition of the meaning of a symbol or sign is not equivalent to conceiving the imageless concept of an object, for both symbol and sign still involve represented imagery. Nonetheless, meaning recognition does involve more than simply recognizing the family resemblance of an intuitable configuration, as is commonly exhibited in the behavior of dumb animals, whose intelligence is restricted to dealing with imagery directly connected to a present object.[151] The audience of symbol or sign expression must have at least the same level of semiotic imagination as that of its producer, who associates the expression of meaning with something to which that expression is not immediately tied.

Granted such shared capability, how can meaning recognition be secured? Although other symbols and signs might serve to indicate that an intuitable factor operates semiotically, the communicability of symbols and signs must be intelligible without having to depend upon prior recognition of other symbols and signs. Only then can a vicious circularity that would threaten the very possibility of any communicable semiotic imagination be overcome. How then can symbols and signs be comprehended as such by others without depending upon other symbols and signs?

The first challenge that must be met is that in order for any intuitable factor to count as the vehicle of semiotic representation, mind must equally grasp it as signifying a meaning that is internal to mind. The meaning is not just the mental content of the intuition of that configuration, for then mind would have only an intuition, not an awareness of a sign. Nor is the meaning an intuited object connected to that configuration. Instead, the meaning is itself a representation distinguishable from the intuition of what indicates that meaning.

Further, the internal content that is signified must be a general representation. Otherwise the relation between sense and meaning would be a nonrepeatable private association, momentarily linking some unique image with the intuitable configuration serving to signify it. Then the semiotic relation could neither be communicated nor remembered, since the same association could never be reenacted by one and the same mind or by others. So long, however, as the sign signifies a general representation, its meaning can be reencountered in other expressions and be communicated and retrieved.

Although the sensible appearance of the symbol or sign cannot alone convey its semiotic function, the nature of that function has ramifications for how the factor expressing meaning appears. Because what conveys meaning is distinct from what it designates, a symbol or sign will not duplicate the physical reality of its meaning. Moreover, whatever serves as a symbol or sign does so in virtue of being used for that semiotic end. Consequently, the appearance of the intuitable representation can be manifestly marked by both the incompleteness of its resemblance to what it signifies and the semiotic usage to which it is put. On the one hand, the signifying factor can present its partial realization of its meaning by presenting, for example, a frozen two-dimensional resemblance of something three-dimensional that alters in time or a surface on which aspects of its meaning appear without any matching interior. On the other hand, the intuitable factor may have a clearly artificial character and/or artificial context manifestly distinguishing it from things with no semiotic role. So long as other minds can apprehend these distinctive features, symbolization and signification can be entertained.

Intelligence, carrying with itself psyche and consciousness, is fully capable of producing and recognizing an intuitable factor expressing a generalized representation. Insofar as intelligence encompasses a psyche that can acquire habits and express itself physically, mind has the embodied mastery to fashion perceivable factors, either in its own performances or in external products, that can provide intuitable configurations for symbols or signs. Containing consciousness, intelligence possesses the intentionality enabling mind to perceive the tangible productions of itself and of others, as well as to be aware of objects and other living individuals to whose general features and classes intuitable symbols and signs might refer. Lastly, intelligence, still bereft of words and concepts, can intuit and represent images and relate images to intuitions or other images. Relying upon its own activities of attention, recollection, association, and figurative memory, intelligence can

generate general representations and then associate them with intuitions or images. Thereby intelligence can imagine and recognize semiotic relations of sense and meaning without depending upon any prior apprehension of symbols or signs.

What thus allows for symbol and sign production and any subsequent rise of language and thought is the coordination of all three spheres of mind. Without mind enlisting its embodied psyche to give tangible expression to its mental contents, neither generalized representations nor their association with the intuitable factor symbolizing or signifying them could be communicable. Instead both would remain completely private, subjective modifications, secreted within a mind that symbolizes and signifies for its solitary pleasure. Without employing its consciousness, no mind could recognize its own intuitable expression, apprehend the presence of others, and direct its communication to them or be aware of their communications in turn. Finally, without mind combining its intelligence with its psyche and consciousness so as to apprehend what is both subjective and objective, no individual could connect external symbols and signs with the mental representations and associations that give them their sense and meaning.

Mobilizing all three of its constitutive modes, mind produces and apprehends signs in an equally threefold operation. First, mind as embodied semiotic intelligence must generate an intuitable factor that it can recognize to be its own product.[152] Second, semiotic intelligence must associate its intuition of that factor with a generalized representation that is both its own mental determination and about something else. Finally, semiotic intelligence must apprehend that association to be produced by itself and, through the possession of that apprehension, be enabled subsequently to recollect that tie of re-presented configuration and meaning.

As noted, the signified representation must be generalized, for if it were merely singular, its originally intuited content could not be recollected but would comprise an intuition confined to a single association of imagination in a single awareness. Nonetheless, just connecting the signifying intuitable expression to a generalized representation is not enough to secure communicability. The sign's linkage of sense and meaning must also be generalized to allow for its transmission. Only once mind renders the semiotic relation itself general can its signification be something repeatable and reidentifiable, permitting the same meaning to be recognized and communicated by a plurality of individuals. Then each other mind can reenact an equivalent association of sense and meaning performed by its own semiotic intelligence.

What permits each intelligent mind to generalize the connection between sense and meaning is the same internalization through which the recollection of intuition gives rise to images. The tie between intuited configuration and general representation becomes a possession of mind by being detached from the immediate time and place in which the individual mind makes that association. As so internalized, the semiotic link becomes something retrievable, just as intuitions become re-presentable as images. To begin with, the retrieval of meaning occurs through the automatic operation of reproductive imagination, which recollects the semiotic connection on the occasion of intuiting a configuration like that of the sign. As recollected, the semiotic connection undergoes the generalizing transformation that applies to all represented content. The specific association of sense and meaning obtains the same abstracted generality applying to a recollected image, relinquishing the particularities of the intuited configuration first expressing the sign's meaning. In its semiotic recollection, intelligence now connects meaning and sense by associating a generalized representation with an image rather than an intuition. This makes the semiotic connection a generalized possession of intelligence, which mind no longer need depend upon the occasion of similar intuitions to recollect. Instead, intelligence can now retrieve its associations of sense and meaning through the spontaneous activity of its own imagination. This equally gives mind the ability to express meanings to others by freely producing a new tangible token of the generalized sense and meaning it is at liberty to recall.

Although intelligence now presides over the semiotic associations it has produced, the signs it recollects still have contents bound to images. This bondage to imagery applies to both sense and meaning, for not only is the sense an image of an intuitable expression, but the meaning remains a generalized representation comprising an image contained in or encompassing a plurality of other images. Due to this retention of imagery, imagination remains exclusively operative, with neither thought nor language proper yet in play.

One might be tempted to object that no semiotic representation can be reidentified without some conceptual description. If this were true, no meaning could be recognized without already involving thinking. Yet could thought itself arise, with the language it depends upon, unless imagination first provided the semiotic materials linguistic intelligence needs to employ? The recollection of sense and meaning by semiotic imagination itself testifies to how the generality of signs, as of images, is psychologically constituted prior to and without thought and language. That priority is evident in the bondage to imagery that remains in force.

Nonetheless, the association of sense and meaning in signs institutes a first break in intelligent mind's dependence upon imagery. In symbolization, sense and meaning are still connected through an imagined content common to them (e.g., lion and courage). Sign production removes the figurative reliance upon shared image content by connecting sense and meaning solely through mind.[153] Precisely because the sense and meaning of signs does not lie in any common imagery, it is no longer pictorial but purely conventional, reflecting the spontaneity of semiotic imagination. When semiotic recollection renders the sign a representation, freely repeatable and retrievable by intelligence, the indifference of the sign's meaning to its imaged configuration is evident, even if the relation to image remains.

Still, sense and meaning do not yet take the form of distinct verbal expressions, as exhibited in the supposedly canonical example of the evening and morning stars. Such an example pertains to senses and meanings that both already involve words embedded in propositional language. Before sense and meaning can be verbalized, intelligence must associate them in terms of images, which, despite their content indifference, involve the prelinguistic relation without which words and concepts could not originate. That primary semiotic association presents sense simply as the intuition that connotes a separate meaning, consisting of a general representation, and when that association is itself recollected and spontaneously reenacted, the threshold of language has still not been breached.

In order for intelligence to think and not just represent, mind must apprehend meanings that transcend the particularities of imagery. To be determinate, thinking cannot be without a particularity of its own. Far from being empty, concepts cannot have their constitutive universality unless they encompass a particularization in their distinctive unity. Moreover, in order for a concept to have a particularization in which its universality is at one with itself, it must involve particulars that are differentiated from one another. If not, the particular lacks the plurality that allows it to be distinguished from as well as unified by the universal. Consequently, the universal must involve not just particularity but differentiated particulars exhibiting individuality. These determinations of particularity and individuality are constitutive of universality, and for this very reason, the specificity of each concept is a thought determination, not an extrinsic image. This intrinsic content of thought is manifest in how concepts are definable through words expressing conceptual determinations.

The conventionality of signs may already free the sense of meaning from figurative bondage to any one specific intuition, but the generalized

representation that is signified still remains tied to intuition mediated by the imagery of imagination. The latter connection must somehow be severed if mind is to think and verbalize.

3.4.5 Name and word

The last move on the road to linguistic intelligence consists in the transformation of the sign into the name. This occurs when the relation of sign and meaning produced by intelligence becomes apprehended in the manner that representation allows. Through the recollection of sense and meaning, the semiotic relation becomes a representation of a connection between the image of the sign configuration and the general representation of what it signifies. That encompassing representation is the name, the primary form that words take before other verbal expressions have emerged to render the name a particular type of word within the established fabric of language and thought.

The name is first generated as an isolated product of semiotic imagination, representing the relation of an intuited expression to an inner general representation that exists only insofar as intelligence makes that connection for itself. Because the name represents a semiotic connection between an intuited expression and a general representation, naming takes place very much in the world, as the psychological act of an embodied self. The production of the name is situated in the specific time and place of the embodied naming individual, although the name itself can be apprehended by its originator without being expressed to others. As merely subjectively determined, it lacks the externality prerequisite for communicability and remains a private possession of that intelligence.

Moreover, so long as the name is just momentarily represented, it lacks the generality allowing for its own repeatability and recognition. Only when the name is recollected and its recollected representation is expressed can the name obtain the communicability basic to language and thought. This verbal recollection and its expression supersede the limitation of the name's initial isolated baptism. It renders the name a repeatable representation whose connection of sign and signified becomes an enduring possession of intelligence, available through communication to others. Verbal memory provides the required internalization of the communicable name, enabling the bridge to thought.[154]

That bridge has yet to be crossed, however, and the recollection and expression of the name is not alone sufficient to provide linguistic competence. Symptomatic of this limitation is the familiar circumstance that well before mastering language, a child can learn his or her name and apprehend approval or disapproval in how it is spoken.[155]

The meaning of names is initially restricted to an ostensive reference, where the name represents the association of an intuitable configuration and some intuited object that it signifies. The reference to an object might seem to render the name a so-called proper name, designating an individual rather than a general representation. Even when, however, the name refers to an individual thing, it signifies not the momentary intuition of it but rather the reidentifiable subject that endures from one intuited moment to the next, as well as in the intuitions of different potential observers. Consequently, even in the case of ostensive reference to an individual thing, the name refers to a general representation that underlies a plurality of singular appearances and may be imagined by a plurality of intelligent minds.

The name can equally apply to general representations that present figurative family resemblances or figurative classes that contain a plurality of image contents. In all these cases, naming is able to operate without having thought or propositional language at its disposal.

This might make one wonder whether naming can qualify as the first distinctively human deed, as the Bible suggests in Genesis 2:19.[156] It may well be that language and thought arise only after individuals communicate names to one another, but that does not mean that those who name are either actually or potentially linguistically competent. As childhood development shows, names may first be used without discursive thought and only later acquire a conceptually determinate character, exhibited in propositional usage.[157] Then names will figure as words whose meaning combines thought and language.[158]

The limitations of naming are exhibited in those theories of meaning that make naming paradigmatic of linguistic reference. Bertrand Russell, for example, rests understanding a name on acquaintance with the particular it denotes.[159] The problem is that sheer acquaintance is insufficient for any unambiguous reference. If a name simply denotes what is present, without further qualification, it is indeterminable what aspect of the present manifold, let alone anything enduring within it, is the object of the name. Naming by itself cannot alternately depend upon description to pin down its reference, for the mediation of description requires predication and the propositional usage of language. To the extent that language involves intersubjective interaction, it can neither be true, as Russell suggests, that the meaning of a name resides in a description ("in the head") or in the denoted object ("outside the head").[160] Rather, reference via description and demonstrative reference both depend upon the context of shared communications and commonly observed objects with which linguistic interaction proceeds.[161]

3.4.6 Naming versus speech

The prelinguistic character of all the preceding forms of intelligence is reflected in the lack of any intersubjective interaction in their constitution. When mind intuits, intelligence apprehends its mental content to be both an immediate psychological given and immediately related to something objective, without thereby having to engage any other mind.[162] When mind represents, transforming intuitions into images, intelligence treats them as its own product and as about something objective, independently of any other mind.[163] Lastly, when mind arrives at the threshold of linguistic intelligence by producing the sign and representing its relation of sign and signified as a name, semiotic imagination goes to work uninvolved with other selves.[164]

Intersubjective interaction can hardly be expected with intuition, since the subjective and objective immediacies of intuition leave no occasion for mind's direct relation to its mental content and its object to depend upon any relation to another self. Although representation explicitly mediates the images it produces through its own associative acts of imagination, these can all operate without the intervention of any interaction between selves.

Can semiotic imagination, however, produce symbols, signs, and names in solitary majesty without falling prey to the objections that Wittgenstein directs at any private language conception? Can any symbol, sign, or name have a communicable meaning if its production is not tied to recognition by other minds? Would semiotic intelligence not be trapped in the insoluble enigma described by Wittgenstein in terms of individuals who coin the same word to indicate what lies inside a box they each individually possess but into which no one else can peer?[165] How could any such symbol, sign, or name have any definite meaning when no common standard is available to fix its significance for others? How could one know whether one uses one's semiotic term correctly? Might the meaning one associates with it be wrong?

Compounding this problem is that the foregoing account of sign and name production appears to limit signs to names, restricting semiotic meaning to ostensive, demonstrative reference to independent things.[166] Since signs originate by signifying general representations that abstract common sensuous content from intuitions, signs and the words they entail denote representations whose objects are ultimately intuited entities. Does this not resurrect Augustine's account of language, in which words name objects, sentences combine names, and meaning is restricted to whatever object each word immediately refers to?[167] As Wittgenstein complains at the start of his *Philosophical Investigations*, all

context sensitivity and syntactical determination of linguistic meaning is ignored by such exclusive reliance upon ostensive reference.[168]

Most importantly, naming, in and of itself, lacks the decisive capability of speech to form propositions composed of words and thereby express judgments and inferences. As Plato points out in the *Sophist*, the minimal enunciation of bona fide language relates noun and verb, which, unlike mere naming, can express "what is, or comes to be, or has come to be, or is going to be," accomplishing something that the utterance of a name cannot.[169] Truth, falsity, and every other matter of validation lie beyond the expressive capability of naming.[170]

These points would have force as objections to the account of naming if the production of signs and names was taken to be equivalent to the generation of language. The absence of intersubjective recognition and the role of syntax would be deadly if the operation of semiotic imagination were itself the deed of linguistic intelligence. Rather, sign production and naming can be psychological actions of an individual intelligence, independent of any relation to others, precisely because linguistic interaction depends upon these solitary mental activities to furnish the constitutive components with which language and thought can be generated.

Admittedly, the production of signs and names by semiotic imagination does not itself establish communicable meaning for those very reasons that Wittgenstein expounds in his argument against private language. Nonetheless, the individual who produces a sign and then represents it as a name has a private, prelinguistic apprehension of its meaning. This apprehension does not have any nonsubjective standard for linking the sign and name to what they designate, for the semiotic connection they present resides so far only in either the associative act or recollection of it by the individual who performs these mental acts. Nonetheless, the sign and name have a subjective reality, even if the intersubjectivity of language is not yet at hand.

By the same token, the sign and name production by semiotic imagination does not comprise an apprehension of conceptual content. Thinking is not present, for the sign and name still designate a general representation that is figurative, drawing its content from what is common to or inclusive of intuitions. Can individuals participate in the linguistic interaction in which conceptualization is possible, however, without first subjectively producing signs and names?

Any "triangulation" by which communicable words might be ostensively established by interacting individuals depends upon those individuals already being able to observe one another and the objects to

which their signifying behavior relates. This interaction can thus hardly proceed unless its participants are prelinguistically conscious of things, other selves, and their own expressions. If not, they cannot apprehend one another as intelligent selves nor recognize anything as the semiotic expression of anyone nor confront a recognizably common world to which their expressions refer. It is the ability to produce and recognize signs and names without yet engaging in language that makes possible the origination of linguistic interaction.

Neither the origin nor the actuality of language can possibly be made intelligible if one denies the prelinguistic production of signs and names by semiotic imagination. To give any sign or name a communicable meaning, some individual mind must first represent that signifier and associate it with a general representation, thereby intending that signifier to be about that to which it refers. This subjective semiotic act underlies any assignment of a name to some object as well as any naming of a "natural kind." In either case, what the name designates is prefigured in the mental act that associates its intuited or recollected sign with the general representation comprising its meaning. Otherwise, the name cannot designate anything specific and figure as more than an intuited thing or represented image.

Indeed, as Jerry Fodor notes,[171] a vicious circularity would arise if the meaning intelligence gives the sign already consisted in a word and the conceptual determination it expresses. Then, the assignment of the word, for example, "water," to examples of what it designates would require prior recognition that those examples exemplify the concept "water." Any attribution of meaning to the sign would incoherently require that that meaning be conceived prior to the production of the sign, as if the thought could be represented without using any semiotic expression.

This dilemma is removed by the seminal feature of semiotic imagination: that the meaning of a sign is initially not a concept but a general representation. Language is not needed for its expression precisely because a general representation is completely generated by imagination, without conceptualization. Imagined rather than conceived, the general representation remains a pictorial representation, still confined to imagery. Consequently, semiotic imagination can be deployed to produce signs and names by individuals who have yet to participate in linguistic interaction.

The stage is accordingly set for sign-making and naming individuals to enter a communicative relationship in which mental contents they individually associate in semiotic imagination are expressed to one another in relation to objects, actions, and expressions that they observe

in common. Through this intersubjective "triangulation," the semiotic imagination of individuals can surmount the solitude of "private language" and figure as a constituent of the shared practice establishing communicable meanings.

These meanings, however, cannot be the vehicles of conceptual discourse until intelligence goes beyond naming things to relate words to one another independently of association to figurative general representations. Only then can individuals participate in discursive thinking, communicating thoughts through words that no longer designate particular empirical things. The psychological preparation for this move is provided by verbal memory, whose rote mechanical mode first associates words without connection to any general representations. This subjective activity may only string words along in rote indifference to their figurative meaning, but this negative liberation from pictorial representation sets intelligence free to use words to express concepts whose significance cannot be adequately captured by any image.

3.4.7 Speech versus communication

Speech is communicative to the extent that its verbalizations are directed at other discursive individuals and convey verbal meanings that are intersubjectively intelligible. Not all communication, however, is speech. Discursive individuals as well as dumb animals can communicate nonverbally through expressive movements. Although gestures can serve as the speech of sign language, nonverbal communication employs gestures that do not convey words and the general meanings these designate. Instead, it transmits the feeling or attending that these gestures express. The cries of a frightened goose may rouse its whole flock, but what is communicated is not an account of what that goose has noticed but the fear with which it contaminates its brethren.[172] Nonverbal communication does render what it expresses a common possession of the minds it relates, but what is transmitted is an "affective contagion"[173] lacking the universality of meaning that only words can communicate.[174] A nonverbal signal may get others to feel the same passion, attend to the same individual object, or engage in some particular action, such as the flight of a bee to a location directed by the "dance" of another bee. In these cases, what is communicated is something of a certain kind, and different nonverbal expressions may distinguish one such example from others of another sort. Nonetheless, no nonverbal gesture can communicate a common general understanding in its own right.

Whereas animals whose survival and reproduction does not involve cooperation may have nothing to communicate, those that do cooperate

can be seen to have evolved with species-specific modes of communication. Such "social" species, which include vertebrates as well as invertebrates, are genetically endowed with a characteristic repertoire of movements and sounds for expressing their desires and urges, as well as a characteristic repertoire of innate reactions to these signals, all of which are employed without need of previous experience.[175] Some more intelligent animals, such as whales, may develop particular "songs" that are taught and learnt exclusively by members of the same pod. In every case, however, such nonverbal communication remains confined to the expression of particular feelings, urges, and perceptions.

Speech, by contrast, specifically communicates discursive meaning, which is not the expression of a singular intuition, emotion, or urge but the signifying of a conceptual content, enabling one interlocutor to apprehend the thoughts of another. Speech is not just the enunciation of a name but the making of statements, enabling speech to judge and infer as no nonverbal communication can do. Plato hits the nail on the head in the *Sophist*, where the Visitor notes that speech does not simply utter names one after another but rather connects nouns and verbs.[176] Instead of merely denoting things, speech is propositional, determining concepts in judgments and inferences.

Any attempt to limit language to expressive and communicative functions ignores everything that distinguishes verbal from nonverbal communication. Whereas dumb animals may express their desires to one another and signal particular perceptions, only language allows individuals to affirm descriptions that can count as true or false and argue over what is valid in theory or practice. As Popper points out, these distinctively human features of discourse are precluded on those behaviorist and physicalist accounts of language that reduce it to a mechanism for signaling and manifesting reactions to stimuli.[177]

In chapter 2 of book I of the *Politics*, Aristotle summarizes the key distinctions between speech and nonverbal communication in familiar terrestrial terms, writing that "man is the only animal who has the gift of speech. And whereas mere voice is but an indication of pleasure or pain and is therefore found in other animals (for their nature attains to the perception of pleasure and pain and the intimation of them to one another, and no further), the power of speech is intended to set forth the expedient and inexpedient and therefore likewise the just and the unjust. And it is characteristic of man that he alone has any sense of good and evil, of just and unjust, and the like, and the association of living beings who have this sense makes a family and a state."[178] As we shall see, because speech allows for the thought and expression of universals,

it enables discursive individuals to entertain prudential considerations of what promotes the general desire satisfaction of happiness (i.e., the "expedient and inexpedient"), as well as to address the genuinely normative concerns of acting in accord with unconditioned rational principle (i.e., the "good and evil," "just and unjust," and the like) and participating in normative institutions such as ethical household and political associations. Dumb animals, prelinguistic children, and adults who cannot converse due to congenital deficiency, disease, or injury are therefore limited to the nonverbal communication of particular desires, feelings, perceptions, and urges. Unable to speak and conceive, they cannot engage in any normative theoretical or practical activities, all of which require thinking what is valid on principle.

Anyone who wishes to ascribe rights to dumb animals fails to recognize that nonverbal intelligence is not enough to enable an animal either to exercise the universal prerogatives of rights or to honor those of others. Because rights are not particular privileges but universal entitlements, they exist only for those who can converse and think.

The communicative function specific to language is therefore tied to the intellectual function of thought, on which depends everything normative in theory and practice.[179] Rational inquiry and conduct require more than nonverbal communication, for only linguistic interaction can enable reasoning to proceed and action to seek accord with reason.

3.5 Verbal memory as preparatory to discourse

The production of signs and names by semiotic imagination gives rise to verbal memory, much as intuition engendered the recollection of images and the representation of images fostered figurative memory. Verbal memory develops in three successive forms that together pave the way for thought and language. These stages in the development of verbal memory, following Hegel's pioneering differentiation, are name-retentive memory, reproductive verbal memory, and mechanical verbal memory.

What confirms the completeness and necessity of these stages is their structural interrelation. Name-retentive memory comes first insofar as reproductive verbal memory depends upon it, just as mechanical verbal memory incorporates reproductive verbal memory. Name-retentive memory makes possible verbal communication by inwardizing the intuition of the name in the same way that imagination inwardizes immediate intuitions, making them images. Semiotic intelligence renders the individual tie of the sign to its meaning a universal, enduring connection

by transforming the intuition of the name into a repeatable, reidentifiable representation. Combining in one retrievable representation the connection of the image of the sign with its meaning,[180] intelligence now retains memory of the name.

3.5.1 Name-retentive memory

This name-retentive memory first operates in the same automatic way as does the initial recollection of images. Just as images were retrieved on the occasion of encountering comparable intuitions, so verbal memory recovers names from its unconscious repository when confronted with factors designated by or expressing those appellations it retains. The occurrence of similarly designated intuitions is rooted in the material, physical, chemical, and biological regularities of nature, as well as in the constancies of the psyche's own sensory apparatus, the unconscious syntheses underlying the recognitions of consciousness, and the associations of intelligence. These regularities provide occasions for name recollection, since names contain the association of meaning to intuition that becomes internalized as a connection of meaning to representation. Further, name recollection can occur when intelligence intuits enduring expressions of names it has previously produced, as well as tangible name expressions that other individuals have made. In these cases, the automatic sensorimotor process of intuiting name expressions is followed by the recall of the representation of the name through which the meaning of the expression is recognized. Without name-retentive memory and the recollection it facilitates, the recognition of any sensory stimuli as verbal communication could never occur. This dependence on name-retentive memory is what makes aphasia possible, since if verbal memory is damaged or destroyed, the same intuitions that otherwise would be recognizable as name expressions will be apprehended with no verbal meaning.[181] Name-retentive memory is also what makes hearing the sounds of a foreign language one does not know something different from what a native speaker makes of the same sounds.[182]

Name-retentive memory can operate with whatever sensory medium may express the name. Sight, hearing, and touch can all elicit verbal memory given their discriminatory abilities. Even the smell or taste of a madeleine can occasion name recall, as Proust so powerfully describes.

Recollecting the connection of the representation of a sign to its meaning enables one to recognize the meaning of a name one hears whether or not one is able to write it. Indeed, since the reproduction of a name presupposes its retention, one can understand the meaning of a name before learning how not just to write but even to speak it.[183]

This is saliently true since name-retentive memory is a prerequisite for linguistic interaction. If one could not already by oneself recall names one has designated, one could hardly recognize the verbal expressions one makes to others, let alone the verbalizations they repeat. Of course, in order to make such verbal expressions, one must have sufficient semiotic motor control to produce repeatedly a recognizable name expression. This skill can follow an initial naming, since a first name expression can be remembered before being sufficiently practiced so as to be reliably and habitually reproducible.

Name recollection does not, indeed cannot, depend upon interaction with other minds. This can be seen by considering how names become internalized and then remembered. Given that some factor related to a name must be encountered to bring it back to mind, two options are possible. On the one hand, one and the same individual could elicit and perform the recollection. The occasion, of course, could not already be a verbal recollection. What an individual provides itself to recollect the name must be a representation associated with the name but not itself the name recall. On the other hand, name recollection could depend upon another individual's expression, whose related meaning would have to be recognized as such to elicit a corresponding recall of the name. Since all other individuals are in the same predicament, to recollect names for the first time they would all have to mutually recognize their expressions of meaning without having already recollected the names to which they relate. Yet how could the expressions of others elicit name recall that one's own representations could not occasion?

Admittedly, the communicability of any name cannot be established through the subjective act of name recollection by an individual. Intersubjective intelligibility requires that individuals minimally perceiving one another verbally express putative examples of the same names to designate objects they perceive in common. Even then, however, the participants would each have to know that their expression is the manifestation of a name they recognize – which is to say, already recollect. Although the latter interaction may enable a name to be communicable, it cannot be the source of name-retentive memory. Rather, the participants in the "triangulation" of communicable naming must already have subjectively recollected the name that their expression to others is intended to convey.

3.5.2 Reproductive verbal memory

Just as the involuntarily occasioned recall of images furnishes the material for their spontaneous representation, so elicitation of name-retentive

memory makes possible the unsolicited reproduction of the generalized representation of the name. In both image and name reproduction, what is reproduced takes on a generalized character. A name is apprehended to be reproduced in that it is the representation of a verbal connection of which it is recognized to be an instance. The same name is repeatedly identifiable in each of its expressions and as such what is reproduced is the common representation of the name.[184] As so represented, the name is now a possession of intelligence that one is at liberty to bring to mind and associate with other representations. Just as reproductive imagination empowers mind to associate images, so reproductive verbal memory enables intelligence to associate names, which mind possesses thanks to the internalizations of name-retentive memory.

Once intelligence is free to connect names to one another, it is equally able to recall their connection when occasioned to do so and then to reproduce that connection that has become its possession. Moreover, in representing the connection of names, intelligence can associate a sign with that representation of associated names, which can then itself be represented and named. These developments in name recall and representation institute a crucial transformation in the relation of name and meaning that sets the stage for words becoming the medium of thought.[185]

Once names are recollected and then reproduced and associated, intelligence can apprehend them without their original connection to intuition or image. Names do not thereby lose their meaning. Rather, when names are internalized as possessions of verbal memory that intelligence can recall, reproduce, and associate with one another, the name signifies what it means without needing an intuition or image of its referent. As Hegel points out, when we apprehend the name "lion," we grasp its meaning through that name's own simple representation. No intuition or memory of an individual lion need be furnished, for the name signifies by itself.[186]

Liberated from the tie to nonverbal, pictorial content, the name comprises an imageless simple representation that exhibits the structure of reason, offering a subjective determination that is no less a determination of something objective. Unlike intuitions, the subjective-objective content of reproductively associated names is no longer something immediately given. It is rather a product of the verbal memory and imagination of intelligence. Moreover, by leaving behind the tie to imagery, verbal memory enables intelligence to deal with a mental reality of its own making that transcends both given intuition and pictorial imagination.[187] To the degree that thinking thinks concepts, that is, products of

intelligence that lack image content, it can be no surprise that we think by means of names, broadly considered.[188]

The association of names through reproductive verbal memory thus anticipates how thought requires words for its apprehension and expression. Intelligence cannot have thoughts as its object unless they can have an objectlike presence, opposing the inwardness of mind. To be conceptual rather than figurative, that object of intelligence must be freed of the externally given particularity that encumbers intuitions and the images that represent them. Names and, more generally, words provide just the object that thought requires by having an externality consisting in verbal representation that confronts intelligence as something it has itself produced in departure from any intuited given.

Nevertheless, thought does not consist in just apprehending, recalling, or associating names. All these activities of intelligence can be performed by the single individual without thereby comprising language or conceptualization. Names can designate a figurative general representation rather than an imageless concept. Furthermore, recalled names can be associated in an utterly arbitrary, meaningless manner, where intelligence subjectively connects words without rhyme or reason – or with rhyme without reason. In all such usages, names are able to be employed without conceptually determining any object. True thinking, by contrast, will somehow use words to unite concept and objectivity, signifying objective thoughts that are inherently communicable.[189]

As we shall see, name retention and verbal association can engender thinking and language only through two related developments. On the one hand, word order must take on meaningfully differentiated forms, allowing syntax to invest verbal meaning with more than a pictorial reference to individual objects. Through syntax, word order can become propositional, enabling the judgments and inferences in which the meaning of words can become conceptually determined. On the other hand, names themselves must come to signify universal meanings liberated from the imagery of general representations. To the degree that this liberation requires propositions connecting universals to one another as well as to individuals and particulars, these two requirements will obtain their satisfaction together. Once the syntactical relations of words conceptually determine their significance, meaning becomes liberated from figurative representation, limited to mirroring independent givens. Then words can signify a universality able to differentiate itself, psychologically realizing a thinking that can determine content on its own.[190] All this will be achievable not in psychological isolation but in shared linguistic community.

3.5.3 Mechanical verbal memory

What completes the psychological preparation for these developments is the third type of verbal memory, which Hegel has aptly called "mechanical" verbal memory. This mechanical verbal memory mobilizes verbal recall and reproductive verbal imagination to remember by rote associations of names. Whatever meaning the associated words may have is explicitly ignored in this mechanical verbal memorization. Mechanical verbal memory internalizes and then recalls series of names in an utterly external manner, such that the order of names has no connection whatsoever to their significance. This rote connectivity distinguishes mechanical memory from the verbal memory that recalls signs with their connection of generalized meaning and represented sense. Because mechanical verbal memory associates names without any reference to their meaning, the association it produces is sustained solely through the activity of mind. Names are connected by rote, rendering this verbal memorization mechanical in that the names are remembered in an order entirely external to their significance. This key move sets the stage for thinking without representation, because in mechanical verbal memory, mind not only produces names but independently generates their interrelation. The determining role played earlier by intuition and representation is suspended, freeing the order of names from dependency on figurative factors given independently of intelligence. Being known by rote, names instead become entirely enclosed within intelligence.[191] This renders intelligence that memorizes by rote a formal, unreflecting vessel of names. Mechanical verbal memorization may sever the link of names to any pictorial content, but it is hardly an exercise of discursive thought. Its arbitrary subjectivity relinquishes the character of reason, insofar as the names come to mind with no heed to any objective reference.[192]

Mechanical verbal memory's elimination of any ordering by meaning might seem to reduce intelligence to a mere psyche, where mind communes with its mental contents without differentiating subject and object. Mechanical verbal memory, however, does not just recycle feelings that occupy the psyche. By memorizing series of words by rote, intelligence instead internalizes associations of names that mind produces independently of distinguishable meanings. Names retain meaning, but having been remembered by rote, they are ready to signify wholly by themselves in and through intelligence.

So long as names remain associated through their meaning, their connection relates to something external, involving a synthesis that

is not a priori but in which intelligence does not relate to itself.[193] Through memorizing names by rote, intelligence submerges the difference of meaning and name by being the universal receptacle unifying its recollected names as the particular externalizations of its mechanical activity. This submergence can be considered the ultimate internalization achieved by the representing of imagination, for no independent meaning persists, and intelligence deals only with its own products, freed of any remnant of intuition and its external givens.

Nonetheless, rote verbal memorization is also the ultimate externalization of intelligence, since intelligence has rendered its subjective activity a mechanical operation in which intelligence obtains existence as meaningless strings of names contained within its universal verbal domain. Since intelligence both produces and contains the rote connections of names, the self of intelligence is their abstract repository as well as the power generating, recalling, and ordering them.[194] Since this power is mechanical, the unity of intelligence is just as externally connected as the names it contains by rote. This is exhibited by how rote memorization recalls its words without accentuation or any other trace of intended meaning or subjective personality.[195]

How then can the mechanical capacity of intelligence to remember names by rote be an enabling bridge to discursive thought?[196] Here, for the first time, intelligence occupies itself with nothing but its own products and its own independent ordering of them, foreshadowing how autonomous reason will think concepts in their own immanent development; that is, in *synthetic a priori* connection. Second, intelligence here relates to particularizations of its own activity that are contained entirely within it yet retain a differentiated mental being. These particularizations are the names retrieved in rote memorization, which are indifferent to the mechanical connection that intelligence forges among them. Due to this interpenetration of containment and independence, intelligence combines subjectivity and objectivity, as reason proper will do in thinking conceptually determined reality. In rote verbal memorization, intelligence combines subjectivity with objectivity by encompassing the memorized names within its own mental space, such that these names exhibit the same indifferent independence vis-à-vis their subjective ordering that objectivity possesses as determined in and through itself vis-à-vis anything external.[197] The activity of intelligence now contains the quality of objectivity, of involving factors that belong to it yet are determined in and through themselves. Through its manipulation of names, intelligence acquires an objectivity that does not rely upon intuition.[198] Producing mental factors of its own that stand utterly

indifferent to the activity uniting them, intelligence has generated a verbal objectivity independent of images.[199] No longer must thought be considered empty without intuition. Intelligence has engendered a verbal space in which thought may attain objectivity without relying upon imagery.

Although only the account of thought and language can confirm what their prerequisites comprise, some preliminary indications are worth recapitulating. As we have seen, once intelligence engages in mechanical verbal memorization, mind gives itself an objectivity residing in the indifferent content of the names it connects. Setting aside any separate meaning these names may have had, intelligence can apprehend itself to be in unity with the objectivity of its names. Insofar as intelligence grasps its own mental determinations to be names it mechanically orders, it is aware that these possess an objectivity completely enclosed within the verbal domain of mind.

Reason, consisting generally in the unity of subjectivity and objectivity, has always been present in the development of intelligence. In intuition, reason's unity was present as something immediately given, both in the presence of the intuited object and in the immediacy of intuiting. In representation, reason's unity was posited as a product of imagination, where intelligence produced images whose imagining remained about something given to mind. Through verbal memory, reason's unity of subjectivity and objectivity now exists in and for intelligence as its own activity.[200]

By bringing reason to exist in the very activity of the subject, verbal memory has removed representation's final obstacle to the emergence of thought and language: the residual tie to figurative content, given independently to mind. This removal equally signifies that intelligence no longer must occupy itself with meaning that is merely subjective, in the sense of being different from the objectivity to which it refers.[201] Thought will emerge from imagination only when the determinations of mind relinquish their tie to another figurative representation. Then thought can exhibit the same identity of subject and object that sets logic apart from other disciplines. Because logic is a thinking about thinking rather than a thinking about what is other than thought, the subject and object of logical investigation cannot be distinguished. Thinking, as a psychological reality, is itself a thinking of concepts, a thinking about thought determinations.

Moreover, in order for thoughts to be thought by thought alone, their own conceptual content must entail how they are ordered. Otherwise, factors independent of thought must enter in to connect them with one

another and determine the form of their ordering. To the extent that thoughts thought by means of thinking alone have this self-developing character, thoughts can be said to think themselves. This reflexivity is what allows logic to achieve its own logical identity of subject and object – the thinking of thinking can be united with its object only if that object, thinking, is itself a thinking of thought. This identity does not remove all relation and reference. Thought is about something, but it has its objective being in its own mental space, wherein intelligence differentiates from itself the thoughts with which its thinking is occupied.[202] The being of words constitutes the external objectivity of thought, through which concepts are thinkable. This verbal realization allows intelligence to engage in its subjective activity without losing the objectivity of its thoughts. Verbal expression will prove to be necessary for thinking to take place precisely because its expression will remain within the verbal domain of intelligence without forfeiting its independent being as the object of thought.

Verbal intelligence brings mind to the threshold of discursive thought by enabling mind to be a subjective process that is equally objective, generating its own self-standing mental factors without the external givens on which intuition and representation depend. Through mechanical verbal memory, associating names without connection to any figurative content, intelligence has freed the articulation of meaning from representation. Now intelligence faces the positive task of determining meaning without imagery, of thinking and communicating concepts, for which no picture can be adequate.

4
The Constitution of Linguistic Intelligence

4.1 The emergence of language and thought

The emergence of language and thought is an achievement of intelligence, instituted by a plurality of individuals. They similarly experience a common world while having already developed their imagination and sensorimotor skills so as to form and express to one another signs and names, which they can recognize and freely associate thanks to their verbal memory. If these individuals did not confront the same world with a sufficiently analogous experience of and response to it, they could not understand their expressions to have any shared connotation and meaning.[1] If they lacked sufficient semiotic imagination and sensorimotor skills, they could not produce and communicate any verbal terms. If they lacked verbal memory, they would be unable to reidentify and connect any signs and names. Although these requirements consist in individual psychological endowments, the move from name production and memorization to language takes place through psychological activities that individuals can engage in only in interaction with others who perform them as well.[2] These interrelated activities are at once constitutive of thought and linguistic communication, as well as of the basis of normative community.[3]

Although sign production, naming, and the rote memorization of names enables individuals to apprehend terms whose meaning has been liberated from sensible, figurative content, it does not provide those terms with a positive meaning independent of imagery. This positive fulfillment requires more than simply stringing names together. It instead involves setting names in specific relations by which they are determined to have communicable nonfigurative meanings.[4] These relations comprise a minimal syntax in which the ordering and modification

of names give expression to conceptual determination. In order for signs to have a positive imageless meaning, they must figure as words whose connected articulation communicates the nonfigurative specification by which individuals and particulars are determined by universals. This involves some form of predication or judgment where a name signifies something that is determined to possess a universal property, to belong to some class, to share in the nature of a species or genus, or to satisfy some normative standard in virtue of its particular character.[5] Such verbal expressions constitute propositions in which thought takes place, where intelligence affirms and apprehends a positive nonfigurative meaning that is inherently communicable. What ensures the intersubjective intelligibility of such meaning is both the universality of its conceptual specification and the linguistic interaction in which it is realized. By attaining linguistic competence in interrelationship with others, individuals are now able to make conceptual assertions. This enables them to contend with normative questions of truth, right, and beauty, all of which depend upon the recognition and communication of universal principle.

The move from imagery to thought occurs through the institution of linguistic interaction, in which a plurality of individuals express propositional meanings by following shared verbal conventions that establish for one another the boundaries of correct and incorrect usage of the words they employ. These conventions have a lawful character insofar as they are followed in common by the members of the linguistic community that constitutes itself by using them with one another. The rules of their linguistic convention need not be expressly codified nor chosen by any particular privileged procedure. Rather, it suffices that they become predominant norms of linguistic behavior, largely apprehended and followed by those who communicate with one another or engage in silent, solitary monologue. Without participating in the practice of following some such shared rules of linguistic activity, no individual can know when any name or connection of names has an objectively and intersubjectively established meaning. Otherwise, name production and recall remain isolated, arbitrary endeavors whose communicability always remains in question.

There is a habitual dimension to the comprehension and expression of language, involving the acquisition of the sensorimotor skills of linguistic perception and communication, that enables them to be employed without unwieldy deliberation. Nonetheless, the rules of language are not just habits that happen to be largely shared but norms that are recognized by at least some interlocutors as standards for correct

usage. Whereas common habits can be regarded as facts concerning how the members of some group are observed to behave, linguistic norms have an internal aspect, whereby individuals of a linguistic community recognize them as rules they should follow to achieve communication, even if deviation from the norm may sometimes serve the expression of meaning.[6] For this reason, Wittgenstein is right to describe linguistic practice as involving "language games," since the rules of a game are not just descriptions of habitual behavior but arbitrary, conventional norms that determine what performances count as valid gamesmanship.

These rules of a particular linguistic convention comprise the specific grammar with which a language operates. Since they arise in the shared practice enacted or reenacted by some group of individuals endowed with semiotic intelligence, they are contingent. They will differ from the rules of other linguistic communities and alter as usage happens to change over time. For this very reason, each and every word and the particular grammar of language must be learned by individuals born into a linguistic community.[7] They must have the genetic endowment providing the capacity to learn language, but the process of language acquisition is necessarily cultural, mediated by the particular conventions of the linguistic community to which they thereby gain access.[8] By contrast, the preverbal forms of communication of "social" brute animals are largely hereditary,[9] followed by all members of a species without prior experience or training until genetic alterations give rise to other species-specific modes of signaling and response. Since language arises instead through freely engaged semiotic interaction, it is necessarily cultural and historical in character, even if linguistic agents must share an innate species endowment making possible the enactment of discourse. That endowment may be said, following Chomsky,[10] to be a biological language faculty that natural evolution produces, but it comprises only the enabling (rather than determining) condition of the contingent cultural conventions of language.

Whereas instinct may determine brute animal communication, causing them to signal one another when observing specific stimuli or feeling certain drives, the conventions of linguistic interaction are produced by the correlated chosen actions of intelligent individuals.[11] Discursive agents may be subject to the communication of mimetic signs, like those of yawning, that mechanically transmit a mood and behavior from person to person.[12] They may unconsciously express their feelings by innate gestures of smiling or wrinkling a brow to which newborns congruently respond.[13] When they use language, however, they engage in a willed expression whose transmission of meaning

depends upon enacted conventions. For this reason, language is never limited to a fixed repertoire of communications, like the genetically mandated signals and responses with which brute animals communicate in response to external situations and internal drives.[14] Language users are always able to coin new words and propositions to respond to any new situations that arise, as well as give expression to novel concerns without any external solicitation.[15] Circumstances may prompt interlocutors to engage in appropriate discourse, but what they say is not caused but those circumstances. As Chomsky observes, one may be "incited or inclined" by external and internal conditions to speak in one way as opposed to another, but one is never "compelled" to do so, for language use is always a free initiative in which the conditions of discourse leave unbounded what can be stated.[16] This creative plasticity is reflected in the further cultural practices of which linguistic interaction is a constitutive element.

Although language has this conventional character, the advent of linguistic intelligence can wield a powerful evolutionary selective pressure, enhancing the survivability of the inhabitants of discursive communities.[17] Yet as Kant points out in the *Groundwork of the Metaphysic of Morals*, discursive reason can prove to be a very poor guarantor of natural survival, given the unparalleled ability of rational agents to pursue ends and enter conflicts that put in jeopardy the very existence of their own species.[18] Conversely, the ethical concern that linguistic intelligence makes possible can suspend selective pressures within linguistic communities by ensuring the survival and reproduction of those who cannot fend for themselves.

Whatever be the implications for future evolution, the original acts that generate language have a prerational character. Since linguistic interaction gives rise to thought, which makes possible rational conduct and the establishment of normative institutions, the initial institution of language is a product of correlative volitions that are not yet guided by concepts. After language has arisen, further linguistic development can be the work of rational reform and supplement, but at the outset, the genesis of language can occur only through concomitant actions relying upon an intelligence that disposes over intuitions, representations, and semiotic imagination but not yet over discursive thought.

Because discursive thought arises only in and through the conventional formation of language, thinking is not itself an innate, natural, genetically determined function of intelligence. It is rather a constitutive element of the historical cultural process in which thought and speech arise together. The natural endowments that enable a certain animal

species to think and converse leave undetermined the form and content of the thought they make possible.[19]

The conventions of language, for their part, may be the necessary vehicle for thinking, but they too leave undetermined both what can be thought and which thoughts among those that are possible are valid. The conditions of word generation and the basic formal nature of grammar allow for unlimited possibilities of verbal expression. Semiotic imagination enables one to produce names for any general representations one imagines and then to name any connection one makes between any of those representations, expanding the wealth of verbal meanings with recursive and reiterative fecundity. Grammar may dictate what form statements must have to be communicable, but grammar does not thereby dictate what content they may have. For this reason, grammar has a freely generative character, allowing for an infinite proliferation of sentences through which discursive individuals can converse and think without substantive limits.

Moreover, although the rules of linguistic convention make possible the distinguishing of correct and incorrect usage of words, they do not determine the validity of the meanings they allow to be communicated. Since participation in the rule-governed usage of language is what allows verbal meanings to be transmitted, these rules regulate the intelligible expression of true propositions as much as false ones. For this very reason, rules of correct usage cannot themselves discriminate between the truth and falsity of what they allow to be grammatically spoken. Even though the communicable meaning of words may depend upon their users' sharing beliefs to a substantial degree, this does not insure that any particular proposition they communicate need be true.[20] Although individuals may have to have enough experience in common for their words to signify shared meanings, how they judge this experience is open to controversy, just as are a priori claims on which depend the normativity of truth, right, and beauty. The conditions of meaning are fundamentally indifferent to truth and falsity, and this indifference is precisely what allows language to leave the validity of discourse unconditioned.

Nonetheless, legions of thinkers have sought to treat language as a transcendental condition of knowledge, as if linguistic convention were an epistemological foundation dictating what can be true in discourse. Any attempt to make language determinative of the validity of what is spoken, however, incoherently undercuts its own assertion, for it renders discourse relative to linguistic convention while absolutizing that condition as the foundation of knowledge. This dilemma can be avoided by

recognizing that grammar conditions the communication of meaning, not the truth of what is meant. Although thought must use language to apprehend and determine concepts, language leaves thought free to tackle what is normative.

Ultimately, what allows language's propositional communication to determine conceptual meaning is the autonomy of thought. Most modern thinkers have mistakenly proclaimed thought to be empty and to be modeled by formal logic, which purportedly governs thought by rules that never determine the "material" content but only the consistent form of whatever may be conceived. If that were the case, thought would be merely analytic, incapable of generating any content of its own. Thinking would then be able only to examine content provided by another source, such as experience or linguistic practice, to see whether that content is handled consistently; that is, in accord with the formal principle of self-identity enshrined in the principle of noncontradiction. So construed, thought can never establish the truth of any content but only certify a given content's formal coherence. This prevalent view is incoherent, for the claim it makes about the exclusive analyticity of thought is not itself an analytic claim but a universal assertion about the nature of thinking. That assertion has a very synthetic content of its own, connecting thought with analyticity. The unqualified necessity of this connection cannot be derived from experience or given conventions of language, since both are always particular and contingent.

How universality can be concrete and determine the particular and the individual is something that genuine logic establishes in its thinking of thinking. Much traditional philosophy has mistakenly identified the universal as either an empirical abstraction, devoid of any particularity of its own, or as an essence for which the particular is an inessential derivative. In the former case, the abstracted universal is alleged to consist of a particular experienced mark shared by a plurality of individuals. It is abstracted from them as if it could be both the same and present in them all. Since, however, the abstracted universal is an empirical content separated out from others among those belonging to different individuals, it is unfathomable how such a common mark could maintain its plurality (as existing separately in multiple individuals) and yet have nothing to distinguish it from the other marks comprising the same universal. When, alternatively, the universal is conceived to be a universal somehow participating in secondary, deficient exemplars, the difference between the universal and its instantiations requires a mediating "third" term to connect them. Since that

third term is different from what it mediates, it requires some mediator of its own to secure its connection, leading to an infinite regress. These dilemmas are removed once the universal is recognized to entail both particularity and individuality in its own unity. To be universal, universality must instantiate itself, giving itself a particularization through which it has its encompassing identity. The particulars of the universal, however, cannot maintain their particularity unless they are differentiated from one another. Otherwise they collapse into one, eliminating the defining distinction between the unity of the universal and its differentiation. Consequently, the universal must develop itself into differentiated particulars, that is, individuals, making individuality inherent in universality. This concrete unity of universal, particular, and individual is what allows the concept to be pregnant with content rather than to be an empty abstraction, governed by formal rules of consistency.

Logical investigation is no more formal than conceptual determination, for logic has a very specific content of its own; namely, thought itself. Moreover, because logic's thinking of thinking does not examine something different from its own method, it has the unique character of being an investigation that does not distinguish subject and object. Whereas all nonlogical investigations examine something different from the thinking they exercise, they must take for granted both their topic and their method. Unless nonlogical investigations presuppose some given domain as their topic, they have nothing to examine in distinction from their examining, whereas unless they have some method already in hand, they have nothing with which to investigate their subject matter. Logic, by contrast, presupposes neither its form nor its content, for only at logic's conclusion does it establish both at once by completing its valid thinking of valid thinking.[21] The account of how language can express the autonomy of thought and the fecundity of conceptual determination presupposes the logical development of the concept, as well as of judgment, syllogism, and philosophical method. Hegel has worked out this development in his *Science of Logic*, and I have attempted to confirm his success in two books, *From Concept to Objectivity: Thinking Through Hegel's Subjective Logic*[22] and *Hegel's Science of Logic: A Critical Rethinking in Thirty Lectures*.[23] The logical argument cannot here be reiterated, for it does not belong to the philosophy of mind and its account of intelligence. Nevertheless, some of logic's basic moves will need to be invoked when considering how intelligence gives linguistic actuality to the different forms of thinking.

4.1.1 The relation between language and thought

Thought and language are so intertwined that, to paraphrase Herder, what truly distinguishes rational animals is language from without and reason from within.[24] It can be no surprise that many languages use the same word to refer to thought and discourse, for rationality cannot be actual without being discursive.[25] Although one may think silently without communicating with anyone else, one can do so only by conversing with oneself. The "reason from within" is equally an internal speech, just as "language from without" is an engagement in thinking.

Intuitive understanding or intellectual intuition has been offered as an alternative nondiscursive divine cognition, where thinking is in immediate relation to what it conceives insofar as what is divinely thought gains its independent being in being divinely conceived. Such divine cognition may not have to worry about overcoming the opposition of consciousness, where the confrontation of the subject with an independently given object makes problematic knowing things as they are in themselves. The object-constituting divine cognition must, however, grasp what is individual in its complete singularity, since immediate existence is concrete. Intuitive understanding or intellectual intuition is at pains to apprehend anything universal or anything particular or individual that is determined by universals. Accordingly, its intuition cannot be verbalized, nor can its awareness be conceptualized in terms of any logical relations. It remains incommunicable and fundamentally irrational, at least insofar as reason thinks objective thoughts in which concept and objectivity correspond. A god whose understanding is intuitive and whose intuition is intellectual can neither speak nor have any thoughts that are intelligible.

Although thought cannot have a conceptual content to think without words and the propositions to which they belong, the stages in the development of thinking and language are not identical. Emblematic of this discrepancy is the difference between the grammatical being of propositions and the logical form of judgment.[26] Judgment immediately connects a universal with a particular or individual. A proposition, by contrast, connects a subject and predicate. In both cases the immediacy of the connection is signified by the copula "is," but whereas the judgment connects the conceptual determinations of universality and particularity or individuality, the proposition merely associates a subject with a predicate, which may or may not exhibit any logical connections of the concept.[27] More generally, propositions can be identified with sentences, which connect nouns and verbs, with or without the addition of adverbs and adjectives. Sentences, like more narrowly defined

propositions, can use words in ways that need not exhibit the logical ties where individuals and particulars are determined by the different forms of universality. Consequently, interlocutors can converse with propositions and sentences before they have thought through the different forms of judgment, as well as the forms of inference these entail. Discourse can begin with a figurative use of words before these words express meanings that are logically determined. What allows the same words to be used in propositions that are not yet judgments and then later in judgments proper is the development of meaning that words can undergo.[28] One can first employ a word to express a general representation applying to a particular group of things and then use the same word in its logical meaning to express a definable class to which that group belongs.[29]

Accordingly, as much as thought requires language for its actuality in outer as well as inner discourse, the structure of language does not strictly mirror the logical "structure" of thought.[30] This is true even of the formal, calculative, deductive thinking that formal logic models, not to mention the systematic, content-generative, synthetic a priori thinking that philosophy employs. All thinking is verbal, but grammar encompasses logical as well as figurative sentences, and therefore grammatical form cannot be completely congruent with logical form.[31]

The discrepancy between grammar and conceptual development reflects the general distinction between the ordering of syntax and semantic relationships. Language always has both aspects, since propositional discourse has a verbal expression that is distinct from the meaning it communicates, which may be equally expressible by other words and phrases, in the same or other languages. Just as signs have a connotation from which their meaning cannot be derived, so the order of words and propositions is distinct from the relationships of meaning – that is, the semantic relationships – they convey. This is particularly true when the meanings expressed are conceptual determinations involving logical relationships. The syntactical relations of words and phrases always involve external orderings that can be detached from the content of the terms they govern. This externality is fundamental to the generative power of grammar, whereby finite forms of syntax give rise to unlimited linguistic possibilities. By contrast, conceptual relations are immanent, tying the content of universality to the particularity and individuality in which it differentiates itself. Thought determinations may employ syntax for their expression, but their semantic connections are something different. This is exhibited in how a philosophical argument can always be expressed in alternative verbal expressions, as well as in translation.

Despite the incongruent connections between language and thinking, it has been suggested that thought must be prelinguistic, because individuals could not experience any need to establish language if they did not already recognize one another to have thoughts in need of communication.[32] After all, nonverbal signals can communicate feelings, particular observations, and general representations. Only thoughts require language for their transmission. How could, however, any individuals have conceptual thoughts to communicate without already participating in the propositional discourse in which concepts are logically, that is, imagelessly, determined? One can grant individuals feelings, general representations, and an awareness of signs and names before they enact language proper, and these mental contents can, of course, be verbalized. Moreover, individuals who produce signs and names have a freedom to generate ever more signs and names both to respond appropriately to novel situations and to express creative urges, albeit limited to general representations of figurative imagination. Those who freely signify and name already transcend the confines of brute animal communication, which on the one hand has a genetically fixed repertoire of signals and responses and on the other hand is elicited by the perception of given external situations or given internal urges.[33] Consequently, the motivation to inaugurate discourse need not be lacking simply because thought can arise only with the emergence of language. Once individuals interact so as to communicate general representations through signs and names, they are ready to generate the elementary syntactical forms of discourse with which thought can begin to develop itself.

Insofar as language can operate using words that have yet to have their conceptual meanings fully developed, the relation between thought and speech itself undergoes change. This change can occur in the phylogenetic sequence of animals with different levels of linguistic capability, in the cultural history of linguistic communities whose grammars and vocabularies have attained different levels of development, and in the ontogenetic maturation of individual rational agents, whose language learning and conceptual prowess pass through various stages.[34]

In this connection, Vygotsky maintains that there is "a prelinguistic phase in the development of thought and a preintellectual phase in the development of speech."[35] The prespeech phase of thought development is evident in early childhood and exhibits similarities to the phylogenetic limitations of ape intelligence. Vygotsky characterizes this prespeech phase as involving, first, the expression of inarticulate sounds and responses to adult speech that are emotive in character; then follows a second stage, about age two, when words begin to be

spoken, expressing general representations, whose meaning is not yet logically determined but remains bound to congeries of imagery. Only as adolescence begins does language become conceptually determinate, with thought forming itself in suitable verbal expression and speech becoming fully rational. By contrast, what Vygotsky characterizes as the prelinguistic phase of thought development involves not imageless conception but rather its figurative precursor, where general representations are apprehended and expressed using signs and names that have not yet obtained propositional determination.[36] Therefore the so-called prelinguistic phase of thought development and the preintellectual phase of linguistic development are not symmetrical. Thought proper has no real prelinguistic actuality, whereas language may first emerge with propositions in which logical relations are not yet expressed and general representations, rather than concepts, still hold sway.[37]

4.1.2 The sensible media of language

In order to converse, individuals must express their words and propositions in sensible media that are accessible to one another. Accordingly, those who can discourse with one another must be endowed with sufficiently similar sensory receptivity and sufficiently similar sensorimotor capability to produce verbal expressions with a speed, duration, and scale enabling them to perceive their respective linguistic communications.

The sensory modalities offer varying linguistic possibilities, given their different degrees of detachment, acuity, and permanence and the differing ease with which expressions can be made in their particular media. The senses diverge according to how much they alter their object in sensing it and how close their sense organs must be to take it in.

The least "theoretical" sense, taste, must consume its object at least in part in order to apprehend it. Taste does so by breaking down and dissolving the object it savors, with little opportunity to separate out different parts of what it consumes in each tasting. As a result, any attempt to communicate by taste can only be received by the tasting individual during the process of consumption, leaving that apprehension a fleeting, nonrepeatable subjective experience that is unavailable to anyone else, unless identical morsels are offered for tasting by others. Moreover, the relatively indiscriminate character of the dissolution of the tasted object greatly limits the possibility of successfully expressing or apprehending differentiated terms and differentiated connections of terms, even if individual taste sensors have highly specialized chemical sensitivities.

Similar limitations apply to the second least theoretical sense, smell; it depends upon some molecular dissipation of its object, which wafts

through a gaseous atmosphere to the olfactory sensors of receptive individuals. Although this dissipation can be sensed without direct contact with what remains of the smelled object, it offers scant opportunity for a differentiated dissipation regarding either what smells are simultaneously received or the sequence of odors. Once more, any communication of distinct words and propositions is severely restricted by the character of this medium. Although an object's odors can be simultaneously smelled by a plurality of individuals, the scope for linguistic expression is hardly better than that of taste.

The sense of touch, like taste, may require direct contact with the object of linguistic expression, but that contact need not appreciably degrade the object or lack sufficient discriminatory power to provide a viable medium of discourse. Nor need the necessity of direct touching prevent individuals from conversing, even if they must do so, as Rousseau points out, at no more than arm's length.[38] Two familiar examples testify to the power of touch to convey language.

First, there is the invention of Braille, which translates graphically shaped letters into arrays of embossed dots that can be felt by blind individuals, who thereby gain access to written discourse.

Second, there is the remarkable history of Helen Keller, blind and deaf after contracting an illness at the age of 19 months. She obtained linguistic competence by mastering three formidable skills: (1) she learned to distinguish the shapes of letters made by the finger configurations of her teacher and to understand how their sequence spelled out words and propositions referring to objects and activities she felt; (2) she learned to discriminate the voice box vibrations of other speakers while feeling the objects to which their speech referred; and (3) she trained herself to spell out words using the finger positions she had been taught, trained her own voice box to produce audible speech by feeling her own throat vibrations in comparison to those of others, and then subsequently learned to read using Braille.

The use of Braille depends upon the invention of written language, as does Helen Keller's learning of finger shapes as representations of letters. Further, Helen Keller's learning to understand and reproduce speech by feeling throat vibrations depended upon interacting with teachers who could hear and speak and connect their verbal responses to visual prompts.[39] These circumstances raise the question of whether touch can be a medium of language only in connection with individuals who also use auditory and visual media to converse and are literate as well.

Can individuals either establish language or learn a preexisting language if all they and their teachers have access to is the medium

of touch? The most obvious difficulty with either task is the dependency of the sense of touch upon immediate contact between a tangible object and touch sensors. Individuals could form tangible expressions of signs, names, and connections of words by using their sensorimotor skill guided by touch and proprioception. Moreover, they could feel themselves using the same or similar tangible expressions in relation to objects they all feel themselves touching. Admittedly, the need for contact would limit how many individuals could "triangulate" together, observing one another's semiotic expressions in relation to the common objects these designate. Nonetheless, some conversation could emerge under these restrictions, although its development would pale in comparison with what Helen Keller could accomplish interacting with her speaking and seeing interlocutors.

These considerations should lend support to what our terrestrial history of language never ceases to exhibit – that sight and hearing, the most theoretical of senses, are the most viable sensory modes for linguistic communication. Both share the advantage of being able to sense their respective objects at a distance and to do so with ample simultaneous and successive detail. Visual and auditory expressions can be sufficiently differentiated to transmit words and propositions, and both sight and hearing can allow the shared observation of the widest array of objects and activities to which such expressions can be correlated. Sight has a distinct advantage in observing objects at a distance in differentiated detail, but hearing has an advantage when visibility is impeded by intervening obstructions and darkness.[40]

A community of the deaf might have their conversation restricted to employing visual media, such as sign language, just as a community of the blind might be restricted to using spoken language. Among those who both see and hear, however, vocal expression might seem to have primacy for reasons both genetic and expedient. A developed graphic scheme for language has ordinarily followed the development of vocal speech, as linguistic communities make the transition from illiterate to literate societies. This order is particularly evident when writing takes an alphabetic form, where graphic signs stand not for objects but for the sounds of spoken language. Further, vocalization seems much less cumbersome than visual expression, especially if writing be compared to speech as an instrument of ordinary conversation.

Both of these considerations are countered by the fluency of sign language communication among the deaf, which only blocked sight lines or darkness seems to impede. And if cephalopods were to evolve into linguistically capable animals, one can well imagine how the changing

color configurations of their luminescent surface could be used for fluid discourse, even at night or in the darkest depths of oceans.

In any event, whether sight or sound predominates, individuals endowed with either possess an appropriate sensory medium to convey the limitless conversation and thought for which language provides.

The medium is not the message. It makes little sense to claim that visible signs can render a more exact imitation than sounds when both are employed as verbal expressions rather than imagery. Nor is vocalization to be privileged because the successive utterances of speech might be thought more rousing than the continuous sight of an unchanging written page.[41] The visual expression of language has its own succession in the verbal imagination of the reader, who is just as liable to be moved by written speech as the listener to an orator. Moreover, both the changeable visual displays of certain biological capabilities and technological devices can provide vision with linguistic communications as fluid as those that voice can provide to hearing. Contra Herder, the ear need not be the "first teacher of language." Taste and smell may be two indistinct and intermingled to be of service, and touch may be too limited to take the lead among those who can hear and see. Yet sight cannot be discounted for being too "cold and mute"[42] – visual means might well be enlisted by interlocutors before they have recourse to sound.

Herder supports the primacy of speech by maintaining that the sounds of natural things most readily provide the original names since the reverberations of an object are distinct from the substance of that object and its other properties, allowing them to stand as a sign of what sounds.[43] This would leave the first speech completely onomatopoeic, hobbling names with a symbolic character, since their sensible connotation, their pronunciation, would be connected to the sound of their object. It would also preclude the syntactical element of language proper, by which names become words determined in propositions. Syntactical, propositional structure can hardly imitate "sounding, acting, stirring nature,"[44] since the same grammatical form applies to infinitely many possible statements.

The primacy of hearing for linguistic development can no more be upheld by claiming that sound provides the distinguishing mark for the sensations of all other sense modalities, as if sensations had some sound associated with their feeling, making hearing the connecting link of all forms of perception and thereby the privileged sense for language.[45] With the exception of cases of synesthesia, the sensation of each sense does not itself possess any sensible quality. Sight itself has no color, let alone any sound, any more than smelling has an odor, tasting a savor of its

own, or hearing a sound. Nor is hearing rendered the sense of language because its vividness is intermediary between the overwhelming immediacy of touch and the cold detachment of vision.[46] Touch overwhelms only when tactile pain makes the subjective affection obliterate the objective reference of the sensation, and this intrusion occurs just as much when light and sound become painfully intense, for degrees of vividness apply to every sense. Even if hearing had the most middling vivacity, this would not secure it any communicative privilege, since touch and sight can still serve as linguistic media well within their own ranges of intensity. Hearing may be recognized as intermediary between touch and sight with regard to the distance of reception, since touch must be in contact, whereas light can be visible from a remote location whose sounds are beyond hearing.[47] Yet this middle position hardly gives hearing any centrality that would privilege it as a sensory mode for language.

For all these reasons, Herder is wrong to maintain that language could not be invented without the sense of hearing.[48] Hearing may be the most readily adequate sense for linguistic communication in general human experience, but the possibilities of rational intelligence allow for other options.

4.1.3 Linguistic intelligence and the transformation of experience

Lacking language and thought, brute animals, young children, and impaired adults can sense the being of what they confront, perceive things and their properties, understand the dynamic relations of objects, apprehend the difference between what is inorganic and what is alive, attain a figurative self-awareness, and recognize family resemblances among themselves and other members of their species. All these mental achievements can occur without transcending the limits of figurative general representations and the workings of imagination on which these depend.[49]

The emergence of discourse fundamentally transforms experience, adding to all the above apprehensions the features that distinguish the world of culture, of humanity in the truest and broadest sense. *Humanity*, properly speaking, is not limited to the contingent being of *Homo sapiens*, not all of whose members are always or ever rational agents. *Humanity* rather signifies what distinguishes rational agents and the world their linguistic competence enables them to enact, the normative world of culture, whose development comprises history. *Humanity* thus applies to not just some humans but any other discursive individuals, whether they ever inhabit our solar system or galaxies far, far away.

With words and propositional language, experience acquires a new conceptual character, in which discursive individuals encounter the verbal meaning and theoretical significance of what they observe and perceive accordingly.[50] This includes a modification of one's own self-consciousness. Now one can know oneself to have a conceptually determined identity possessing a universality that is not just an empirically given family resemblance but one constitutive of being a rational interlocutor.

Since verbal meanings are produced through conventions of linguistic usage, perception becomes further mediated by the contingencies of those social practices. Nonetheless, this cultural mediation does not leave perception merely relative. Since discursive practice introduces conceptual theorizing, its participants can now discover in what they observe the corrigible truth or falsity of propositional, theoretical claims, as well as illustrations of a priori determinations. Doing so involves, of course, experiencing the verbal expressions of oneself and of others *as* discourse, communicating thoughts.

The advent of linguistic communication thereby opens experience to include apprehending and performing actions motivated by and judged in accord with conceptually determined ends and laws. This allows individuals to experience for the first time the reality of one another as property owners, moral subjects, and ethical individuals belonging to normative associations such as families, civil society, and the body politic. The universal principles of conduct can only be object to thought, which must formulate and express itself in language. Unless individuals share in linguistic competence, they cannot possibly interact in terms of rights and duties. Without tasting the fruit of conversation, no one can leave behind the innocence of normatively neutral behavior and enter the culpable realm of good and evil.

Language and thought further transform experience by enabling it to possess an appreciable aesthetic character. Without discursive thought, individuals can at best experience gratification or displeasure in the world they confront. What appears may attract or repel, but without words and the communication of thought, no one and no appearance can be experienced to possess beauty or its absence. The normativity of aesthetic value rests upon the joining of individual configuration to universal significance, and although objects of aesthetic appreciation need not involve spoken or written words, they must convey a melding of individuality and universality that only discursive thought can shape and apprehend.[51]

At one blow, the birth of linguistic intelligence confers upon individuals and their world theoretical, practical, and aesthetic significance,

bringing into being these three fundamental domains of normativity. They may be supplemented by another cultural dimension that equally depends upon discursive thought: the realm of religious significance. With words and concepts at our disposal, we can experience our world to be marked by the additional divide of sacred and profane, exhibiting a transcendent significance to which only language can begin to allude.

Finally, with linguistic intelligence, individuals are enabled both to make history and to perceive their cultural world as historical. The normative reality that linguistic intelligence brings into being with its own development is that second nature of convention which now becomes an object of experience that discursive individuals can apprehend as the domain of history in which they are immersed. Historical reality is a realm of norms: theoretical, ethical, aesthetic, and religious. With the advent of linguistic interaction, individuals experience that reality in its distinctly historical character.[52] They now can have the self-consciousness of being individuals with an ethical, aesthetic, religious, and historical humanity. The divide between brute and rational intelligence has been irrevocably drawn.

4.1.4 Linguistic intelligence and the transformation of memory

Once individuals converse and think, their memory takes on a new character.

On the one hand, memory acquires a trove of imageless, conceptual meanings through the same psychological internalization by which intuitions and images become available for recall and recognition. Memory now becomes a repository of names and grammar, as well as of conversations and the theories, observed conduct, and aesthetic and religious experience made possible by linguistic competence. As Augustine observes, memory now includes what is known without images, including science, number, and God.[53] Although all of these may be recollected with memory of the sounds or visual images of the words that convey them, those figures of verbal expression leave in memory the conceptual objects they denote, which have not been obtained through any bodily sense.[54]

On the other hand, the process of recall becomes transformed, for now individuals can rely upon the logical connections of conceptual determination to probe the depths of memory. Instead of just following out associations of images until finding the memory they seek, individuals can let thought and language lead the way to retrieve what lies in necessary, universal connections. Aristotle applies the term recollection

to this discursive form of recall and accordingly maintains that whereas brute animals can remember, only a speaking and thinking animal like man can recollect. Because such recollection is a search for what can be inferred from other experience and testimony, it can be engaged in only by deliberating animals who can conceive and state judgments and syllogisms.[55]

4.2 The inauguration of language

The emergence of language is a watershed in the development of mind, altering the fabric of the universe no less fundamentally than the emergence of life from inorganic nature and the evolution of animals from plants. Language is an intersubjective practice in which individuals come to acquire and exercise a linguistic intelligence with which thought and every normative endeavor of culture come into being. Language can arise only among individuals who possess an animal species being endowed with a semiotic imagination and sensorimotor control sufficient to produce signs and names they can show one another in relation to things and activities they observe in common. Nonetheless, because language consists in a conventional interaction whose participants' coordinated expressions determine the meaning of words and the syntactical norms of the propositions they communicate, it cannot be innate. Individuals may be born with a "language faculty" enabling them to generate or learn language with others, but they cannot be born with competence in any particular language. Instead, they must attain sufficient physical and psychological maturity to either inaugurate with others the primary steps in the development of some language or undergo the process of learning a language in being raised and educated within a linguistic community.[56]

The process by which individuals begin to establish a particular language obviously precedes that by which their progeny learn the language that has come to be in the community in which they grow up. Both must be accounted for to conceive of how any cultural tradition can arise within which a true theory of mind can come into being. Unless the origin and transmission of language can be understood, no philosophy of mind can succeed in making intelligible its own possibility.

4.2.1 The puzzle of the origin of language

How then does language originate? This question is a daunting one due to two parallel linkages that are as essential to the actuality of language as they are puzzling for its establishment.

First of all, language and thought are necessarily intertwined. No one can think without using words and propositions to formulate and express one's thought. Individuals can conceive concepts, judgments, syllogisms, and systematic arguments without communicating them to anyone else, but none of these conceptualizations can be an object of intelligence without proceeding in an internal discourse whose silent solitary mental acts still proceed as inner verbalizations. Language, for its part, cannot occur without making place for thought. Although words can be used to express figurative general representations that have yet to be logically defined, the propositional syntax of language introduces the communication of imageless meanings, whose universality transcends the limits of imagery. Conceptual content intrudes into discourse, even when language employs the most singular expressions, such as commands directed at an individual to perform a unique act or statements using proper nouns. The most singular command addresses an individual with an identity enduring in space and time and commands an action that, besides having its own reidentifiable character, is verbally specifiable only insofar as it has some general aspects that can belong to other actions performed by other agents. Similarly, whatever is designated by a proper noun has its own general selfhood, which propositional discourse further determines in ways susceptible to logical qualification. Universality, which images never adequately capture, always finds a place in language, whose verbal expressions cannot remain opaque to thought.

Second, language is an intersubjective practice. An individual may think, write, and speak in isolation, but what is thereby done can be a determinately intelligible discourse only if its expressions sufficiently conform to norms of meaning and syntax that have been established and sustained in the conversations of an actual linguistic community. This applies to individuals who voluntarily and/or transitorily withdraw from contact with others as well as to any "last" person, who no longer has anyone with whom to converse. Semiotic intelligence certainly enables single individuals to produce a sign by connecting some intuitable factor to a general representation, abstracted from or combining manifold images. Even though one may recollect the association of sign and signified that one has made, unless one interacts with others, recognizing one another to make the same association in face of a commonly observed world, one has no way of giving one's signs any determinate communicable significance. Nor, in the absence of participating in a shared linguistic practice, can one modify the meaning of any expression or connect signs and names to one another to produce communicable

statements. Without prior or present conversation among interlocutors, words and propositions can have no intersubjectively valid meaning, depriving signs of any universal, communicable significance while precluding any psychological medium for thinking.

Although these dual connections of language and thought and of language and intersubjective practice have come to be widely recognized, they have also long been acknowledged to make the origin of language a vexing problem. After all, if thought cannot operate without language and language cannot emerge without communal practice, how can individuals inaugurate discourse when they must do so from a condition where they cannot yet think or associate on the basis of any genuinely universal understandings?

Rousseau spells out the two horns of the dilemma in his *Discourse on the Origin and Basis of Inequality among Men*.

On the one hand, the invention of language seems to require thought to establish the grammatical norms of correct usage, whose elaborate conceptual character is the bane of linguistic investigation. Further, even if individuals could comprehend how certain sounds figure as the conventional signs for specific perceptible objects, they would be unable to understand conventional expressions for concepts, which, being imperceptible, could never be pointed to by voice or visual signal. Both syntax and imageless verbal meanings would seem to presuppose the existence of thinking. Thought, however, cannot function without using verbal expression, whether in internal monologue or external discourse.[57] We thus arrive at an impasse, where language cannot be enacted without already having at hand the thinking that language alone makes possible.

Compounding the difficulty is that, on the other hand, language cannot be invented without sociality and its need for verbal communication. Without individuals already living in community, they would have no dealings with one another or any incentive to interact and converse. There would be nothing inducing them to invent language.[58] The natural relations of parents and children might be thought to engender linguistic communication, but males and females could produce offspring through chance encounters, with no need of words to express their sexual desire, just as a mother could suckle and raise her children without moving beyond preverbal sounds and signals.[59] The child might be driven by necessity to communicate its needs to its parents, but that necessity could impel cries and gestures rather than speech.[60] Since all such natural functions of reproduction and the nurturing of young offspring can be met by brute animals, language can hardly find

its origin in them. A different kind of sociality is required, in which common conventions replace natural bonds. Such nonnatural sociality, however, needs language to provide the shared understanding on which its artificial community rests. We thus arrive at another impasse, no less vexing than the first: language could never have been invented if the society for linguistic community was not already present, but the communal bonds of such a society could not have been formed without its members already communicating through language.[61]

Can there be any natural way out of these perplexities? Rousseau offers some suggestions in his essay *On the Origin of Languages*, but none suffice. Insofar as language cannot be preceded by any genuine nonnatural, normative associations, Rousseau recognizes linguistic practice to be the first social institution. He therefore concludes that language must originate from natural causes.[62] Yet what can these be? Rousseau suggests that once individuals recognized one another to be sentient, thinking beings, they desired to communicate their feelings and thoughts and instituted perceivable signs to express those thoughts. They did so, not following reason, but following instinct that drove them to this result.[63]

Rousseau's suggestion has the virtue of not permitting the impetus for inaugurating language to lie in a use of reason. Nonetheless, he commits the blunder of ascribing thoughts to individuals before they enact a linguistic community, as if the recognition of oneself and others as thinking beings could occur before language and set off an instinctual urge to invent language. Two misconceptions are here at work. The first is the incoherent appeal to a thinking that operates before language. The second is the appeal to instinct as it if were the only factor motivating individuals before becoming discursive. Admittedly, without language, individuals cannot will imageless, conceptually determined ends or act in recognition of the lawfulness of any rights and duties. Nonetheless, prediscursive individuals can still have all the resources of imagination at their disposal, enabling them to represent and pursue courses of action determined by general representations. The contents of such ends go beyond those that are given by instinct, making possible learning fostered by recollection, as well as improvisational behavior motivated by the spontaneity of imagination. Without that ability of intelligence to act beyond the confines of instinct, how could individuals produce languages that are variable, particular conventional practices? Their variant linguistic practices stand in stark contrast to the inherited, instinctually governed preverbal communication of brute animals, whose communicative behavior is shared by all members of a species

and remains unchanged until genetic modifications produce new innate forms of signaling and response.

Nonetheless, though individuals without language may not be limited to the natural necessities of instinct, could natural evolution provide any remedy to the dual impasses to which Rousseau has pointed?

The blind chance of natural selection may make conceivable the contingent evolution of an animal species endowed with an inheritance permitting it to converse. Nevertheless, having that biological endowment and engaging in discourse are two different matters. It is a truism to acknowledge that the first animals to use language must be born with the biological capacity permitting them to produce the rudiments of discourse and allowing their descendants to learn a particular language when raised within a preexisting linguistic community. It is no less a truism to recognize that evolution gives rise to that enabling species being, insofar as living things reproduce with others of a similar kind, undergo mutations, and compete for the opportunity to sustain their species. What natural evolution cannot determine, however, is what linguistically capable animals must do to engage in discourse. The intersubjective character of the psychological processes with which language develops are such that the production of words and propositions depends upon contingent collaborations in which individuals must together select common signs and syntactical usages in relation to contingently given objects and activities. Their psychological nature may equip them to so interact, but what gets decided in their enacted practice is undetermined by genetic necessity. For this very reason, whatever "language faculty" has evolved to give individuals the semiotic and sensorimotor capacity to converse enables them to produce and exchange an indefinitely unlimited variety of words and statements in an indefinitely unlimited variety of possible languages.[64] Consequently, whatever language gets first invented cannot be derived from the biological constitution of its inventors. By the same token, no one can be born speaking a language. One must either join with others in inventing one or undergo the process of learning a preexisting language from those who already use it.

Nature therefore cannot provide any solution to how language gets established. We must go beyond what nature endows to understand how some animals can progress from possessing the innate capability to converse to engaging in actual discourse. To do so, we still must surmount the impasses to which Rousseau points and show how intelligence can develop from imagination and figurative signaling to thought and verbalization.

No appeal to divine intervention can evade the difficulties to be overcome. A monotheistic god can hardly be a benefactor of language, gifting discourse to humanity. Insofar as language is intersubjective and thought depends on language, how can a one and only God who exists before creation have either thoughts or words to convey to creatures lacking language? Without interacting with other intelligences, the Divine could never advance beyond imagination to thought and discourse. Without a body, how an immaterial deity could imagine or have a mind at all is no less mysterious.[65] Moreover, as Herder notes, how could humans receive the first words from God *as* words without already having discursive reason to comprehend their meaning?[66] An immaterial God can hardly participate in any "triangulation," where individuals observe one another's verbal expressions in face of commonly observed objects and activities. Nor can an immaterial God partake in any further shared development of syntax and grammar.

An appeal to polytheistic intervention offers no solution either, for any plurality of deities would confront the same challenge as mortals of originating language despite its linkages with thought and intersubjective practice. The gods would only take on the problem of inventing language on their own, and their task would be no different than ours. How then could they teach us what we, who are in the same predicament, cannot originate ourselves?

The same difficulty applies to any appeal to extraterrestrial intervention, gifting humanity with a language invented by others in some galaxy far, far away. Whatever alien contact might teach humanoids to speak would only beg the question of how language originates, pushing it off into some other corner of the universe.[67]

If appeal to nature, to God or the gods, or to alien intelligence cannot unravel the mystery of the origin of language, how then can a plurality of intelligent animals, endowed with semiotic imagination and sufficient sensorimotor skills to produce names and recognize those produced by others, establish the first particular language? Could they deliberately invent it? Could language result from some collective agreement, from some linguistic social contract?[68]

Any theory of the deliberate invention of language founders on two insupportable assumptions. On the one hand, such theory assumes that the creators of language can be intelligent animals who already engage in shared rational deliberation, even though that founding deliberation must operate without any prior possession of language.[69] On the other hand, such theory assumes that a language, with all its manifold vocabulary and complicated grammar, could be invented in one collective

production and then immediately practiced by those who institute it. How, however, could intelligent animals represent to themselves the form and content of a language as a product to be made, propose that goal to one another for joint adoption, and then agree to carry it out – all without yet possessing any linguistic means of thought and communication? And how could they then possibly start conversing without practice and habituation, acquiring the verbal and grammatical memory and sensorimotor skills necessary for understanding and engaging in conversation? No such deliberate foundation is possible. Language may be a conventional practice, but its institution cannot be the result of an agreement, of some social contract originating linguistic intelligence.[70]

To solve the problem of the origin of language, one must first recognize that the challenge of linguistic origination does not consist in the impossible task of prediscursive individuals collectively instituting from scratch the vocabulary and grammar of an actual language. The grammatical norms of any language are too elaborate to be explicitly known or consciously followed by anyone who is not an expert linguist. This is reflected in how children learn their first language by growing up in a linguistic community without having to obtain formal knowledge of its grammar. Neither they nor their ancestors ever had to do what cannot be done – namely, have antecedently in mind the scheme of a language – when they have yet to converse or think in inner monologue.

What makes the origination of language possible is the gradual, cumulative development with which it must occur. Instead of comprising an immediate leap into full-fledged linguistic competency, language formation begins with elementary steps that build upon one another in an extended genetic process, which never comes to a complete halt, given the plasticity of linguistic practice.

This unfolding formative process is like what enables evolution to rely upon random mutations, each very restricted in character, to generate something as vastly complex as a multicellular organism, let alone an animal with a mind that can become rational. Evolution could never give rise to any new species if it had to do so by relying upon some sudden blindly contingent genetic alteration of the most minimal life form. The evolution of species would founder upon the same infinitesimal likelihood of the proverbial monkey pounding out *The Science of Logic* on a laptop. Evolution, however, is never in the predicament of that monkey, who always begins from scratch, typing on a new blank screen. By contrast, every evolutionary development proceeds from an emergent organism, already embodying the cumulative results of prior mutations and natural selection.[71] Although each step along the evolutionary

path may involve just one minute alteration, it always builds on all that precede it. As a consequence, every blind-chance mutation can have a feasibly limited scope yet contribute to the emergence of an incredibly complicated life form.

The same feasible simplicity applies to whatever physical and chemical accidents precipitate the original emergence of life from inorganic process. The origin of life loses its inexplicable mystery once it is recognized that all it involves is the emergence of the simplest autopoietic entity.[72] Nothing more need arise than the most elemental prokaryote cell. It can feasibly emerge from the contingencies of mechanistic process, for it simply contains a collection of chemicals whose reactions result in the renewal of those same reactions while reproducing the selectively permeable membrane boundary enabling them to continue without being dispersed or interrupted by extraneous chemical processes.

Similarly, language neither need nor can originate in the collective invention of a full-blown grammar and vocabulary by intelligent animals with no prior linguistic materials. The birth of language can instead feasibly occur through the joint institution of the most basic linguistic elements. These can be generated without individuals already possessing thought or social needs reflecting normative associations that themselves depend upon discursive thinking. Instead, the first steps in linguistic development bring with them the initial formation of thought and the beginnings of community involving recognition of universal norms. Once this initial stage has emerged, further cumulative development can proceed. It will involve both linguistic innovations by the original producers of the most elementary language elements and the acquisition of this primary linguistic heritage by their progeny, who grow up in a community that now uses these basic forms of conversation. All who engage in the emergent linguistic communication can then use the generative power of naming and syntax to produce ever more novel expressions. Further, these interlocutors can add to the grammatical structure of their minimal language elements, doing so in the feasibly gradual ways that can be jointly implemented by one another and then acquired by each subsequent generation through the language learning process made possible by their shared genetic endowment.

That inherited "language faculty" enables maturing individuals to acquire competence in whatever linguistic practice has emerged in their community, as well as to participate in enriching its verbal repertoire and syntax, all without any formal study of vocabulary or grammar. Although norms of usage must already be in play, not until a linguistic

science has arisen might anyone have explicit knowledge of the grammatical complexity of the language they share.

4.2.2 The three dogmas blocking comprehension of the origination of language

The incremental process of language origination overcomes the dilemmas posed by Rousseau, but the very first step along its way is blocked by three central dogmas tainting much modern and contemporary philosophy of mind. These are the dogmas of mind/body dualism, of the identity of mind and consciousness, and of the discursive character of consciousness, all of which have been refuted at length in *The Living Mind*'s account of the psyche and consciousness.[73] Nonetheless, it is worth noting how they impede any understanding of the origin of language and how the psychology of linguistic intelligence testifies to their bankruptcy.

The dogma of mind/body dualism, which sets mental reality apart from physical reality, challenges and is challenged by the reality of language because this dualism renders unintelligible any theoretical and practical interaction of the two domains it separates. The same challenge applies to the monistic correlates of dualism, idealism and materialism, which retain the incompatibility of mental and physical realms but deny the reality of one while affirming the sole actuality of the other. Either way, the incommensurability of the mental and the physical leaves inexplicable how individual minds can interact with one another and communicate, let alone express any mental content in any perceivable words. Unless minds are embodied, in refutation of mind/body dualism and idealist/materialist monism, they cannot physically express their thoughts, removing the very possibility of linguistic interaction. Insofar as thought cannot operate without language, Descartes's doubts of his own body and of the minds and bodies of others are just as insupportable as his "certainty" of himself as a solitary immaterial thinking thing.[74]

The identification of mind with consciousness, perpetrated by so many philosophers from Hobbes and Descartes through Kant, Husserl, and Searle, equally challenges any genesis, let alone any actuality, of language. Partly this is due to how conflating mind with consciousness makes the dualism of a disengaged knowing and the world it faces the beginning and end of mental life. Consciousness is the form of mind that does confront an objectivity from which the conscious ego is extricated, operating under a subject-object polarity where every mental determination counts as being of something independently opposing conscious

awareness. When that dualism is made exclusive for mind, it is not only interaction with the world and other individuals that is precluded. Mind is itself robbed of its own mental domains of the preconscious psyche and intelligence. Neither fits the dualist mold of consciousness, even though consciousness presupposes the psyche to supply it with mental content and intelligence encompasses both the psyche and consciousness. Unlike consciousness, the preconscious psyche relates to its mental contents as modifications of its own embodied subjectivity, feeling its own feelings rather than sensing objects confronting it. Through repeated acts of self-feeling, the psyche transforms its own subjectivity, forming habits, universal modes of motility and sensitivity in which the subject-object opposition of consciousness is not yet at hand. These habituations permit mind to engage in unconscious activities while its conscious attention is focused elsewhere. Without such unconscious training and the trove of internalized feelings it embodies, no one could acquire the memory and habits of linguistic practice. Without these, vocabulary and syntax could neither be learned nor reemployed in inner solitary discourse or in the sensorimotor skills of verbal communication.

The conflation of mind with consciousness further excludes intelligence, on which language depends, and with it the discursive thinking required for any theory of mind. Language can neither originate nor be actual without intelligence because intelligence supplements the psyche and consciousness by apprehending its mental modifications as being both its own subjective determining and the determinations of objectivity. The most elementary linguistic activity requires individuals to apprehend and express intuitable signs and intuitable relations of signs, recognizing them as products of discursive subjects as well as possessors of intersubjective and objective meaning. Consciousness, confined to its oppositional cognition, cannot grasp both these subjective and objective sides that must be kept in mind together for language and thought to operate. Consciousness always just confronts objects without being aware of the subjective mental acts by which it does so. Even when consciousness takes a psychological act as its object, it is not aware of the mental act it employs in so doing.[75] Because intelligence wields a subjective-objective awareness, it alone possesses the discursive facility to comprehend its linguistic expressions to be products of mind that no less are about something else. It is thereby able to produce conceptualizations that it knows to be theories about objectivity. Intelligence, unlike consciousness, can theorize about itself or about any other topic. Overcoming the opposition of consciousness, intelligence makes possible not only the origin of language but the theory of that origin.

This leaves ready for disposal our third and final dogma, the dogma that all consciousness is discursive. Kant and his followers adamantly advance this dogma, maintaining that unless concepts connect representations under forms of judgment, representations cannot convey anything objective or fit within the unity of self-consciousness.[76] If, however, it were true that all consciousness is discursive, then no one could be conscious or self-conscious without employing concepts and judgment, which involve language. In that case, not only would dumb animals and preverbal children be deprived of consciousness and self-consciousness, but any originators of language could have no consciousness of any objects, including themselves, their expressions, and any world they might confront. Any origination or learning of language would be impossible. No one can be aware of the communications of others or of one's own expressions if one lacks consciousness and self-consciousness. How then could individuals ever make the transition from a prelinguistic condition to a state of linguistic and conceptual competence? How then could any theory ever be advanced that consciousness must be discursive?

Every stage in the development from intuition through semiotic imagination to the threshold of language and thought has refuted the three dogmas by exhibiting how mind is a living reality of an embodied animal self and how mind is not just conscious but involves a preconscious psyche and intelligence. Moreover, as *The Living Mind* has shown, standing on the shoulders of Hegel, consciousness has a nondiscursive actuality that precedes linguistic intelligence both phylogenetically and ontogenetically. Dumb animals, whose evolution precedes that of linguistically capable animals, can be conscious and self-conscious, as can young children before they become sufficiently mature to either inaugurate language or learn the language already in use in the community in which they grow up.

Consciousness can operate prior to language and thinking because the defining opposition of consciousness requires only that mind demarcate its own mental activity from the determinations it conveys, giving both separate unities that can confront one another. The psyche engenders this demarcation of subject and object through habit formation and the expression of feeling. Habituation detaches the psyche from its repeated feelings and sensorimotor activities, giving these a universal unity to which mind inures itself, freeing its attention to focus on other matters. The expression of feeling, on the other hand, enables the psyche to render its own sensations something external to its sensing activity. Habit and expression thereby separate the feeling self from the erstwhile

subjective domain of its own sensations. Instead of communing with its own mental determinations, the psyche gives rise to an object-opposing ego, which registers the content of its feelings as a unitary nonsubjective objectivity confronting its now disengaged self.[77] The opposition of consciousness therefore does not require any apprehension of concepts and judgments. If such apprehension were necessary, consciousness would presuppose linguistic interaction while rendering the origination of language and the learning of language equally impossible.

Similarly, the constitution of self-consciousness in the interaction of desiring conscious selves does not presuppose language, which would be no less incoherent. Embodied individuals can recognize their own desiring selves reflected in the expressed desire of one another without having to converse and think. As Hegel has shown in his mislabeled and misunderstood "master-slave dialectic," individuals can reciprocally recognize their desires by expressing in their correlative acts their desire to satisfy the desire of one another.[78] That this can be achieved without verbalization is crucial, for if individuals could not be conscious of themselves in the objectivity they confront without conversing, they would be unable to recognize any of their own expressions as their own in the interactions through which language and thought emerge.

4.2.3 The origin of the basic elements of language

To inaugurate language, a plurality of individuals who lack words and concepts must use their physiological and mental endowments to institute the minimal linguistic factors from which speech and thought can begin their intertwined development. The prospective founders of the first linguistic community each bring with them a mind engaged in multiple mental activities. As potential conversers, they all possess a psyche that feels its own feelings and, through repeated feeling, acquires habituated sensations and motor skills. Secondly, they all have a consciousness that senses the being of a sensuous manifold, perceives things with properties, and understands dynamic relations without yet conceiving laws or universals. Thirdly, they each possess a self-consciousness that apprehends its own desiring self in conjunction with the self-conscious desiring selves of others. Lastly, they each exercise an intelligence that has intuitions, represents them in recollected images, produces new imagery from its recollections, associates all these mental contents in the inner world of its imagination, and produces symbols and signs to signify general figurative representations.

Although the mental production of a sign through semiotic imagination operates without any intrinsic connection to the mental activity of

others, it provides the crucial psychological factor permitting linguistic interaction to proceed. It can do so precisely because the exercise of semiotic imagination is not itself an act of language formation. Even if sign production may make an intuitable factor that others can perceive, because the association between sign and signified initially occurs as an inner mental connection, it has no objective, intersubjective character in and of itself. The individual who associates sign and signified may be aware of that connection and recall having made it in the future. Nonetheless, one can never know that one's solitary association of the sign with its meaning is correct, for there is no nonsubjective standard available to distinguish proper from improper use.[79] This lack of objectivity is reflected in the inscrutability for others of signs that are produced unilaterally by one individual's semiotic imagination. Since the sign, unlike a symbol, signifies a general representation that shares no content with that of the sign, no examination of the sign can alone decipher its meaning. Nonetheless, signs, like symbols, designate a general representation rather than a unique image. Although a general representation has a figurative content, culled from or combining other images, it has a commonality allowing it to be reproduced and recognized in multiple exemplars. Consequently, the general representation signified by the sign has the potential to be a meaning that an individual can recollect, reproduce, and communicate to others, who can apprehend the same general representation in a mental act of their own.

Furthermore, because the sign represents a general representation with no relation to the sign's own figurative content, it opens the door to intelligence apprehending repeatable nonfigurative meanings and recollecting them at will. Moreover, in exercising mechanical verbal memory, intelligence exhibits the ability to connect signs without regard to any externally given figurative meaning. Although this rote associating does not provide any positive determination of imageless meaning, it enables intelligence to freely associate signs. If mind can avail itself of sufficient resources, it stands on the verge of positively determining imageless meaning and engaging in conceptual determination.

Although language does not consist in just names or series of names, the joint establishment of communicable names provides the first element in the development of linguistic interaction. Why is the name primary? Without names, adjectives and prepositions have no subject to qualify. Without names, activities have no subject and verbs have no activities to determine. Without names, adverbs thus have no verbs to qualify. And most importantly, without names, propositions cannot be constructed, lacking subjects to predicate. Whereas all other verbal

factors presuppose names, names can be determined without need of any further linguistic or conceptual resources, provided the names that semiotic imagination freely produces can obtain a recognized objective determination and be communicated.[80]

Conversely, syntax cannot produce the terms it orders, insofar as grammar is a formal generative process that allows for indefinitely multiple realizations of its norms of correct usage. Words must already be available, and naming provides their original source.

Names do become redefined and newly baptized once language arises, drawing upon the propositional meanings of other names and sentences. The prepropositional meaning of names, however, reflects factors that must be able to operate independently of discourse. This includes "common-sense understanding," provided this shared comprehension consists in common experiences, memories, and general representations, all of which involve imagination that has not yet supplemented its semiotic productions with conceptual determinations. Such preverbal common sense recognizes certain conditions, such as spatiotemporal contiguity and qualitative and functional unity to qualify an entity as something nameable. Similarly, since names signify a general representation of a "family resemblance" or "natural kind," individuals must experience entities that exhibit such commonalities, without which they may not bear a name.[81] These contingent, factual circumstances underlie how prepropositional naming proceeds, just as propositional discourse will cast its own web over the meaning of names once language proper has emerged. That discursive redetermination, however, will rest upon the former semiotic developments, without which the syntax of propositions cannot be realized.

The primacy of names is nonetheless challenged by Rousseau, who maintains that words are originally used to signify whole sentences.[82] This claim is accompanied by two corollaries: that general ideas can be verbalized and understood only by enunciating propositions and that named substantives are originally proper nouns.[83] The coherence of Rousseau's theses is suspect. If sentences involve nouns and verbs, how could the meaning of the first words be apprehended without using and understanding the component words in which that meaning consists? Even if the grammar of propositions may modify the meaning of the words that compose a sentence, those words are not themselves sentences. Although propositions may be required to provide logical determination of meaning, allowing imageless concepts to be verbalized and thought, subjects of predication need not be originally limited to proper names, designating individuals. Since semiotic imagination

uses signs to signify figurative general representations, names can designate empirical family resemblances and then be applied to empirical features of observed objects before being used in propositional discourse. General representations may not be concepts, but they permit language to begin expressing common figurative factors, using names that can then undergo meaning modification when propositions are developed.

For any of this to occur, names must achieve objectivity and communicability. To do so, the baptism of communicable names must take place as an intersubjective engagement of individuals who experience their world in a recognizably common manner. These individuals must produce and express the same name to one another in conjunction with perceiving one another using it to designate some object they similarly observe. In this "triangulation," a name is observably related to a jointly perceived object and a shared verbalization. Thereby the association between the name and its meaning, which each participant makes inwardly in a mental act of semiotic imagination, takes observable shape as a shared practice with an intersubjectively recognized objective meaning. Once this primary linguistic event occurs, the participants can recall this joint naming and presume to communicate the same meaning in subsequent articulations of that name to one another.

Admittedly, the shared practice of naming communicates a general representation that still has a figurative content rather than a conceptual determination. General representations lack conceivable universality because they consist in common or aggregated image contents, which can be imagined but not thought. At most they comprise the family resemblances and set aggregates with which empiricism confuses concepts by reducing thought to shared imagery that has been abstracted from experience. Consequently, the primordial words are not signs of concepts but rather designations of objects belonging to an empirically given complex, which can be pictured rather than conceived.[84]

To begin with, names thus have a prepropositional meaning that remains bound to figurative contents. When language, introducing propositions, adds to their given verbal material relations of syntax, names undergo meaning transformations in the resulting web of discourse, where words are defined by one another and obtain a positive, imageless conceptual significance.

Conceptual determination cannot be achieved apart from relating words in propositions, where logical forms of judgment, inference, and systematic argument determine concepts, relating universality with particularity and individuality. Nonetheless, the institution of

communicable names provides the first linguistic materials from which propositional discourse can develop.

This primary material is richly manifold. Given sufficient triangulations, the originators of language can acquire a vocabulary of multiple names, to which aggregates or parts of named objects can be given further appellations. Names can further be used to signify different conjunctions and disjunctions of named objects. Conversers can then advance to name commonly observed properties that differentiate or associate objects of the same name. In this way, names can figure as adjectives, in addition to nouns and conjunctions, designating the features qualifying objects. Further, a name can figure as a pronoun once conversers give the same additional name to different previously named subjects, designating the relation of those subjects to the user of the name, as well as to those subjects' gender and number. Similarly, interlocutors can jointly name the commonly observed activities performed by previously named agents, using names as verbs designating actions. On this basis, conversers can next name the qualifying features of actions, thereby using names as adverbs. In these ways, the process of collective naming by triangulation can produce a variety of words, playing the different roles that, once properly combined, enable propositions to be communicated and thought.

That proper combination is not, however, a matter of indifferently stringing words together. So long as the meaning of words is constituted solely through triangulation, their significance is bound to objects, activities, and relationships given in experience. By itself, triangulation can only name empirically given resemblances signified by general representations rather than concepts. Triangulating individuals can designate similar objects with similar signs, but these mutual associations apply only to contingent collections of shared observations, not to what thought can conceive to be universal and necessary.

Communication then stays limited to figurative general representations. The imageless meanings of concepts still remain beyond expression and apprehension. The beginnings of language have yet to become the beginnings of thinking.

In order to advance beyond the limits of naming, the founders of language must introduce a new dimension to their linguistic practice. This is the dimension of syntax, where the grammatical ordering and modifications of words determines their meaning over and above what triangulation can provide.[85] Linguistic interaction can begin by naming and extending names beyond nouns to conjunctions, pronouns, adjectives, verbs, and adverbs. Not until communication becomes grammatical, however, can propositional language make its appearance.[86]

Of key importance to this subsequent development is that the same words that are baptized as signifiers of empirically abstracted commonalities can later come to signify conceptually determinate factors, exhibiting the logical connections of universality, particularity, and individuality with which judgment, syllogism, and systematic argument operate. Vygotsky cites this transformation of meaning as a crucial part of the language learning process of children, who begin using words to describe contingent groups of things devoid of logical relations but later employ the same words to signify definable meanings subject to conceptual hierarchies. Children move from preconceptual to conceptual use of names thanks to exposure to the discourse of adults who use the same names to refer to logically determinate groups, which contain some if not all of the things with which children originally associate those names.[87] The original move from triangulated words to propositional language and thought obviously cannot rely upon such exposure, which presupposes the former. Instead, what lies at stake are the further steps by which individuals supplement their original triangulation of communicable names with the establishment of the grammatical being of language, on which thought depends.

4.2.4 The move from names to discourse

The grammatical being of language adds to names a supervening modification that makes discourse possible. This modification consists in the shared linguistic practice in which the meanings of words are further determined through syntax, involving specific forms of word ordering and/or alterations of words reflecting their interrelations. Crucial to how grammatical process enables thought is that syntax involves a freedom of intelligence, where the relations and modifications of words allow for indefinitely limitless realizations. Wielding such unbounded procreative potential, grammar in no way restricts what words can be communicated or what meanings they can express. Whatever forms of declension and syntactical orderings grammar may mandate, these apply to every possible word and every possible proposition, whatever they may be.

Grammar is therefore freely generative, providing a formal computational procedure that regulates how words are ordered and altered in order to signify propositional meanings, while leaving undetermined what those words and meanings may be. These grammatical norms are procedural because they leave open the content of the words and propositions they regulate. The grammatical "correctness" of speech thus has no necessary connection to the truth of what is communicated, since

truth cannot be divorced from content. Further, these grammatical norms are computational insofar as they constitute formal rules of usage that apply to linguistic expressions no matter what they are. Words and phrases figure as inputs, and grammatical usage molds them according to its laws, producing syntactically correct speech as its output. Finally, these grammatical norms comprise a generative grammar because they enable interlocutors to use the finite repertoire of their vocabulary and syntax to communicate a potentially infinite wealth of novel, meaningful discourse. In so doing, grammar allows conversers to employ their finite sensorimotor capacities to externalize an unlimited variety of linguistic expressions and to employ their finite minds to think an unrestricted array of possible judgments, inferences, and systematic arguments. The finite system of grammar therefore confers upon discourse an infinite power, where whatever limits thought encounters can only be limits reason has imposed upon itself.[88]

The infinitely generative character of the finite process of grammar is due to three features possessed by any language.

First, semiotic imagination and the sensorimotor skills of sign production give intelligent individuals the freedom to make any intuitive content they can imagine and express a sign for any general representation their imagination can produce. General representations are themselves indefinitely multiple, since they are freely abstracted from intuitions and images. Further, as mechanical verbal memory shows, intelligence can relate signs in any connection it pleases, without being bound by the given determinations of their intuitable content. On top of this, intelligence can produce new signs to signify any of the infinitely possible relations of signs that semiotic imagination can form.

Second, above and beyond these subjective semiotic possibilities, the intersubjective practice of triangulation allows participating individuals to give any name they choose whatever objective meaning they jointly experience and jointly designate by that common appellation. Since triangulating groups may succeed one another in an enduring linguistic community, what each achieves can always be expanded upon by the efforts of those who follow. Not only may synonyms proliferate, but words can take on additional meanings.

Third, the procedural structure of grammar leaves undetermined the words and the content of the propositions it regulates. Moreover, it contains iterative and recursive powers, allowing words and phrases to qualify one another, compounding the verbal possibilities it facilitates.[89] And as the grammatical web of propositions expands, the meanings of words, phrases, and sentences become further enriched by one another.

The possibilities of grammatical speech are therefore endlessly elastic and fruitful.

As a consequence, every language has a dual character.[90]

On the one hand, all languages possess a generative grammar that supervenes upon the prepropositional process of naming and ostensive triangulation. What is universal to generative grammar is the minimal body of norms of correct linguistic usage sufficient to allow for propositional discourse without in any way limiting what interlocutors express and think. Such minimal generative lawfulness must be a feature of the original language as well as of any other successor. Discourse requires this minimal generative grammar as a condition for any propositional communication, and anyone who thinks and converses must have the capacity to follow it in inner and outer verbal activity. All languages must incorporate this common grammar to function as discursive practices, but every language is a convention established through the incremental coordination of the linguistic expressions of the members of some linguistic community. Ethical norms have an equally universal character, mandated by reason, but individuals do not follow them by birth but must enact the institutions that realize them. Like ethical institutions, the universal generative grammar of language is something that may be determined by reason and made realizable by natural evolution, but it does not come into play by nature. Rather, it arises at the beginnings of history, when intelligent individuals advance from naming to propositional communication, and from then on it figures as a necessary element of all further discursive linguistic conventions.

On the other hand, languages do not just share a minimal generative grammar. They are additionally distinguished from one another by having contingent particular grammatical norms and contingent vocabularies with contingent meanings. These particular grammatical norms and vocabularies and meanings result from the particular namings and linguistic conventions that members of a particular linguistic community enact in the course of their cultural history. These reflect the experiences of their particular community and the semiotic choices they have made, as well as the sensorimotor skills and sensory apparatus that distinguish them from other groups of intelligent animals.

Due to these contingent particularities, although all languages have the minimal generative syntax of universal grammar, this does not allow for any general translation procedure.[91] Languages must all be translatable in principle, insofar as the universal meanings of conceptual determination can be signified in any propositional language. Nonetheless,

how translation is to be achieved depends on taking into account the particular grammar and vocabulary of each individual language.

What provides the biological basis for both the universal and particular dimensions of grammar is the genetic capability to produce, recognize, and learn the generative norms that any language must have to provide propositional discourse. Chomsky suggests that since this capability is a biological capacity that arises in evolution, human cognition should be acknowledged to have contingently given limits, like any other biological endowment. Accordingly, we should be "mysterians," who accept that we face unknowable mysteries that some differently structured intelligence might easily solve.[92] Chomsky offers this claim as an unqualified truth, in contradiction to the contingent biological limits he imposes upon knowledge. Moreover, he here ignores the centerpiece of his own theory of language: the infinite creativity of finite grammatical norms, whose unbounded generative power leaves discourse free to produce meanings and thoughts constrained by nothing other than reason's own self-scrutiny.

Although the procedural computational form of grammar leaves discourse free, it is crucial to recognize that the autonomy of thought is not homologous with grammatical structure. Modern thinkers since Hobbes may conflate thinking with reckoning,[93] but conceptual determination is not information processing, where the same computational rules operate upon different inputs, irrespective of what they are. Conceptual determination involves determining particulars and individuals by universals, where the content of the universal carries over into its particularizations and where conceivable individuality has a unity that pervades its unique differentiation. Insofar as thought can be autonomous, universals can be pregnant with content, providing *synthetic a priori* determination. Logical thought, as a thinking of thinking, unites form and content. It therefore has an immanent development that can no more be formalized than be congruent with grammar. Propositions may exhibit the grammatical relation joining subject and predicate through a copula, but judgment proper determines the particular or individual by a universal. The particular, individual, and universal are not indifferently substitutable variables, but logical terms with distinct contents of their own.

The ability of universality, that is, conceptual determination, to generate content on its own provides the positive source for imageless meaning that grammatical form leaves otherwise undetermined. The generative plasticity of grammar leaves discourse free of any external restrictions concerning what can be thought, even though thinking

must employ language for its subjective and intersubjective realizations. Ultimately, however, it is the autonomy of thought that must use the open possibilities of discourse and transform that potential into a free actuality.

As we have seen, any attempt to make grammar determine what can be thought and what can be known to be true is epistemologically incoherent. If language were to condition what can be thought and which thoughts are valid, there would be no way to certify language's alleged foundational role or to validate any other claim. The supposed conditioning power of language would make all knowledge claims relative to one's particular linguistic framework, including knowledge of what that framework is itself.

Nonetheless, though grammar cannot limit what can be thought nor determine what distinguishes true from false thoughts, grammatical process makes it possible for words to acquire a significance based solely on their relation to one another. This nonformal feature of the semantic relationships supported by syntax is what lets intelligence exercise the positive conceptual freedom to establish meanings independently of received intuitions.

Propositions comprise the basic linguistic form in which the relation of words signifies a specific meaning of its own. The words in a proposition are not just symbols or signs of one another. Nor is the significance of a proposition equivalent to the sum of the meanings of its component words. Rather, the propositional connection of words comprises a new meaning irreducible to that which they already contain. By the same token, the relation of propositions to one another in discourse equally alters and transcends what they signify in isolation. In these cases, the meaning that is established has a distinctly propositional and inferential character, respectively. It involves relations of predication, which then can be incorporated in relations of inference.

As we have seen, propositions can be judgments and be parts of syllogisms, but the grammatical form of proposition need not exhibit the logical form of judgment, where individuals and particulars are determined by universals. Although propositions can connect words in relations that are not conceptually defined, individuals who first construct sentences lacking conceptual relationships can proceed to construct judgments by using words and grammatical forms that they have already mastered in their figurative conversations. The same situation applies to the linguistic expression of inferences. Whereas propositions that are not logically determined judgments can follow one another without any conclusion being inferred, the words and grammatical forms of which

they are composed can be employed to form syllogisms, comprising a sequence of judgments in which individuals are determined by universals through their particularity.

Finally, the same words and syntax that compose mere propositions or formal inference can be employed to group judgments into systematic philosophical argument, which overcomes dependency upon given premises and forms of inference by constituting conceptual self-development.

These utilizations of word production and syntax indicate that the generative power of grammar enables linguistic practice to move from figurative representation to the conceptual discourse that mobilizes judgments and inferences in behalf of autonomous reason.

What needs to be explored is both what content the minimal lawfulness of universal grammar must have to make possible this development of discursive thought and how universal grammar and its contingent particular counterpart can be instituted in the incremental establishment of language. Although grammar and logic are not homologous, the forms of judgment, syllogism, and systematic argument provide a key for understanding what structure generative grammar must have. They do so by comprising the thought determinations that syntax must be able to express to make discourse possible. These thought determinations are not conceivable apart from verbalization, but words can fail to express them unless sufficient grammatical resources are provided.

Chomsky offers an alternative empirical path for uncovering the properties of universal grammar. He suggests that we can examine a particular language, such as our own, and if we observe structure-dependent syntactical rules at work that are not explicitly learned, we can be sure that these form part of the conditions for language acquisition. Since we are not specifically capable of learning one rather than any other language, it is reasonable to assume that any structure-dependent principle that we find holding for one language will be part of universal grammar.[94] Can this method, however, insure that such rules are part of universal grammar rather than of a particular grammar (that might be shared only by certain languages that have common origins) and which children pick up without being conscious of what those rules are?

If instead we follow the cue of the logic of thought, the minimally sufficient universal lawfulness of generative grammar can be a topic for philosophical examination. By contrast, the content of the contingent particular side of grammar must be left for empirical examination by linguistics. We have then two philosophical problems to tackle. First, we must consider what if any determinate generative norms of propositional

discourse are necessary to communicate judgments, syllogisms, and systematic argument. Once this question has been addressed, we can then consider how individuals, who have come to name factors in a jointly recognized way, can originate the word modifications and syntax through which conceptual determination can be stated and thought.

4.2.5 The content of universal grammar

Universal grammar is both the minimal syntactical structure that any language must possess to function as propositional discourse and the schema that enables a particular grammar to operate, combining the generative form common to every grammar and the specific conventional structures that distinguish one grammar from another. Whereas universal grammar is invariant, particular grammar is contingent and malleable.[95] Every language has a particular grammar that provides the historically emergent complex of rules that generate an infinity of sentences with the formal and semantic properties that make them intelligible and producible by those united in the linguistic community by its communicative practice.[96] To have generative capacity, a grammar must exercise certain transformative operations upon verbal materials, which themselves have general types (e.g., nouns, pronouns, adjectives, verbs, adverbs, conjunctions, prepositions) as well as specific sensuous configurations (in the case of spoken language, phonological features) and meanings (as individual items of the language's lexicon). These transformations organize the elements of phrases into proper sentences, whose communicable meaning is supported by the grammatical structure to which they conform.[97] That meaning is itself determined with respect to both the "common sense" understanding shared by interlocutors and the logical relations to which the sentence is subject as an element of propositional discourse.[98] For these reasons, the grammatical "deep structure" forming sentences leaves their meaning undetermined, even if it gives them their correct syntax.[99]

To enable language to be propositional discourse, universal grammar must provide the generative norms that allow the verbalization of the different forms of judgment and syllogism, as well as of systematic conceptual development.[100]

These universal generative norms for the verbal expression of thought are significantly different from Kant's schemas of the categories.[101] Kant's schemas of the categories consist in time determinations applying to any experience of objects. These time determinations provide schema allegedly enabling the category determinations of the forms of judgment to be exhibited in the temporal form of sensibility. This is to insure that

the categories can apply to objects of experience, whose apprehension depends upon both concepts and intuitions. Kant's category schemas apply only to appearances and, in doing so, leave objects of experience subject to an external necessitation in which only efficient causality can apply. This means that life and self-determination cannot be experienced as such, leaving the spontaneity of thought and subjectivity in general beyond the domain of what is objectively knowable. By contrast, the grammatical forms that make possible propositional language apply to all discourse without in any way limiting what kind of objects or what kind of relationships and processes can be thought and communicated. Since grammar leaves thought free and cannot distinguish between the truth and falsity of equally grammatical statements, the grammatical forms enabling judgments, syllogisms, and systematic argument are not limited to discourse about phenomena or about objects devoid of formal, teleological, or autonomous determination. If these grammatical forms of discourse were so limited, the very theory of linguistic intelligence would be devoid of any validity. Since these grammatical forms of discourse do not have any juridical role for knowledge, they are not transcendental in character. They are enabling rather than determining conditions of discourse.

Judgment has four fundamental forms, which involve four different types of universality. These forms comprise qualitative, quantitative, necessary, and normative judgments, and the corresponding types of universality they employ are the abstract universal, class, genus/species, and the concrete universal.[102]

Universal grammar must provide the basic syntactical norm for communicating the determination of an individual or particular by a universal, whatever be the type of judgment and universal at play. This requires some grammatical form by which the particular predication of some subject is generated. It is again contingent whether this involves the conjugation of a verb of attribution, declined in accord with the gender of the subject, or simply a subject and adjective, ordered and/or modified to communicate the relation of judgment. Nonetheless, the different types of judgment have specific relationships that universal grammar must accommodate.

Qualitative judgment determines the individual by an abstract universal, predicating some quality of it that inheres in that individual without in any way determining the character of its other distinguishing features. Such an individual is accordingly an entity whose qualities bear no essential relation to one another. This is the type of individuality privileged by empiricism, since nothing more can be known of such an

individual simply by thinking any of its properties without the supplement of observation. Universal grammar makes possible the verbalization of qualitative judgments by providing the norms of linguistic usage determining how propositions can affirm or negate predicates of an individual subject. These norms are freely generative insofar as they leave undetermined what those predicates and individuals are. There must be some syntactical way of distinguishing a proposition that positively affirms an abstract universal of a subject from one that denies that ascription. Whether this is done by inserting or omitting negating terms or by altering the words for the subject and its qualification is contingent. What matters is that universal grammar provides a resource for accomplishing this propositional determination.

The quantitative judgments in which universality takes the form of class membership require for their linguistic expression the grammatical forms by which singular, plural, and all subjects can be predicated. This involves both the forms by which nouns and adjectives undergo modifications to signify their quantification and the verb and adverb declensions that do the same for the subjects they determine. Although class membership is not the only conceptual determination that objects possess,[103] the grammar of propositions of quantitative judgment makes possible communicating and thinking one essential way in which universals determine particulars and individuals.

Appropriate syntax must further be provided to give verbal expression to judgments of necessity (including categorical, hypothetical, and disjunctive forms), which revolve around how the universality of genus and species necessitates its differentia. This requires the enabling verb, preposition, and conjunction constructions that enable propositions to communicate the categorical, hypothetical, and disjunctive relations of subjects and ascriptions.

Finally, universal grammar must supply the syntax for propositions of normative judgments (which include assertoric, problematic, and apodictic forms), in which concrete universals lay hold of individuals through their particularity. These are particularly important for discourse, since normative judgments determine the truth, right, and beauty of subjects in virtue of their particular constitutions. Without the syntax for verbalizing how a normative universal applies to an individual through its particular determination, thought cannot address issues of fundamental value, leaving individuals at a loss to conceive, discuss, and sustain the bonds of any normative community.

Since syllogism is composed of a series of judgments, enabling individuals to be determined by universals through particulars, the syntax

of the first three types of judgment plays a constitutive role within the form that inference takes in language. Whereas there are inferences of quality, quantity, and necessity, there are no inferences composed of normative judgments, because the latter already contain the ascription of a universal to an individual in virtue of its particularity.[104] This is indicative of why systematic argument, which concerns itself with normativity, does not rely upon inference, which always begins with given major and minor premises and arrives at conclusions that are relative to those assumed starting points.

The three forms of syllogism do need certain syntactical vehicles to express what their component judgments do not – namely, the mediation of the conclusion by the two judgments that provide its bases. At the very least, this requires the type of connectives that can communicate the inferential relationship of the judgments composing the syllogism.

No further syntactical norms are required to conceive and communicate systematic argument, which thinks through the immanent development of concepts. Systematic thought can conceive the self-differentiation of universals by employing opposing judgments and inferences in a discourse that integrates them so as to express how thought can give itself new content and yet remain at one with itself, being both synthetic and analytic at once. To take the most basic example, discourse can articulate "being" and "nothing" and express how being is immediately nothing and nothing is immediately being. It can affirm how being and nothing are both absolutely different and absolutely equivalent, since they contain no further mediating factors that would connect or distinguish them. Further, discourse can state how being that is nothing and nothing that is being comprise becoming, using two separate expressions to characterize what consists in them both. Further, it can articulate how the two sides of becoming, coming to be and ceasing to be, cancel themselves. This is so because being that is nothing returns to being, just as nothing that is being reverts to nothing, given how being and nothing are immediately one another. Discourse thereby accounts for determinacy, for once the becoming of becoming cancels itself, there is being and nothing as immediately at hand. Through these series of propositions discourse has presented an emergence of determinacy from indeterminacy, an emergence that is not inferential in character but rather a self-development of determinacy that takes none for granted. The conceptual development that gives rise to determinacy from nothing determinate thus involves a semantic relationship that is very different from the syntactical order of the propositions by which it is expressed. These consist in judgments and inferences, yet their interconnection is

such that they convey a thought process overcoming the limits of their own propositional forms, which hold different terms apart and draw conclusions from determinate premises.[105]

Nothing more rudimentary than the development from being to determinacy can attest to how, once language has established the grammatical resources for expressing judgment and inference, it has all it needs to engage in philosophical investigation.

4.2.6 Stages in the emergence of language

No matter how powerful any biological "language faculty" may be, no language can arise as a discrete whole. Instead, the first and any subsequent language must emerge in a gradual incremental process that never ceases to modify and supplement the vocabulary and syntax it develops.[106] To have a communicable objective meaning, each word must be introduced through a recognition process involving a plurality of interlocutors. This applies to nouns as well as to verbs, adjective, adverbs, pronouns, and quantitative expressions. It also applies to particular syntactical norms, whose adoption must be mutually acknowledged in practice, if not in explicit apprehension. In each case, every new vocabulary and grammatical structure can be employed only on the basis of the conventions of usage that already prevail. The cumulative succession of triangulations, where individuals together perceive how words and expressions are commonly employed with respect to commonly observed phenomena and behavior can foster further linguistic development only provided they are internalized and habitually renewed by each generation of the enduring linguistic community. With the emergence of syntax and propositional speech, triangulation can provide intersubjective recognition for meanings that depend upon common observations of how words are related not just to objects but to other words and propositions. The resulting language formation may be immense in scope and complexity, but its incremental character allows each step to be a small addition that can be built upon by anyone who learns whatever linguistic practices have so far emerged by growing up within the community that uses them. This engenders a gradual cumulative development, where growth in vocabulary provides an ever-expanding verbal content for employment in syntactical forms that themselves are gradually invented, recollected, learned, and then modified anew. The inherited capability for semiotic imagination and grammatical ordering provides all that is biologically and psychologically necessary for language development to unfold and build upon itself. Since each incremental formation is a conventional practice whose transformations

occur in history, the progress of language emergence can far outpace any biological evolution. Since grammar is generative, at each stage in syntax development the linguistic community disposes of an increasing array of usage norms with which it can produce new word modifications and phrases. Moreover, insofar as the boundaries of linguistic communities may shift, integrating conversers from other groups and absorbing verbal usages from outsiders, synonyms and alternative phrases and idioms can rapidly proliferate,[107] accelerating language growth above and beyond what any strictly internal development can foster.

The ensuing development of language is endless, both in respect to the alteration of any given language and to the proliferation of new languages. The development of thought that accompanies linguistic development, by contrast, attains a stage at which conceptual competence is as complete as it can be. Autonomous reason has all it needs to express itself once grammar provides the syntax for the conceptual determinations of judgment, syllogism, and systematic argument. From that point on, the thought of language users is no longer limited by the linguistic resources at their disposal. Although they can always create new conceptual content and theorize in ways that distinguish them from interlocutors in other linguistic communities, so long as their thinking is now linguistically enabled to be self-determined, it can no longer be restricted by any external factors. No biological endowment or any further linguistic development can possibly enhance the power of their reason. Further evolution, bioengineering, and cybernetic implants may expand sensory perception and the facility of memory and calculation, but reason itself is one and unchanging due to its very autonomy, which leaves rational discourse with enabling conditions but no juridical conditions.

Historical chance may determine what cultural developments one finds at hand, leaving individuals of different communities with varying theoretical achievements to build upon. Nonetheless, so long as one's language is fully propositional, one can always redevelop the pathways that other thinkers have elsewhere blazed, as well as conceive what has yet to be thought. Moreover, since no language can be untranslatable, every linguistic community can take advantage of the accomplishments of other cultures, provided sufficient contact and resources are available. Of course, the development of writing or its equivalent plays a key role in facilitating the elaboration of thought and the retention and distribution of cultural achievements. It will be worthwhile considering the different forms that writing can take and how they may impinge upon these possibilities.[108]

Language may never determine which of the thoughts it makes possible are true and which are false. Nonetheless, linguistic development can still impinge upon how capable thinking can be. This can occur only at the most primitive stages of language formation, where vocabulary and grammar have not yet provided sufficient verbal instruments for full-fledged conceptual determination. Once a language has developed the propositional syntax for judgments and inferences, its users can progress from general representation to thought. At that threshold, language leaves reason free to set its own limitations; that is, to determine itself. Whether one speaks Sanskrit, Greek, Chinese, Latin, Hindi, Swahili, Quechua, or German is a matter of indifference, so long as one's language has acquired the means for propositional discourse. In that case, one can think autonomously and share one's thoughts with the users of any comparable language with whom one comes in contact. Whether they are terrestrial or extraterrestrial, translatability is guaranteed, for thought cannot be restricted to any particular verbal expression or any particular language.

Since the development of language begins with individuals who already produce names but have yet to develop the grammar that makes propositional discourse possible, one can follow Herder's dictum that "the more primordial a language is, the less grammar must there be in it."[109] Since only propositional syntax allows thought to develop, the most rudimentary stages of language will be limited to the expression of feelings and imagery more than logical argument.[110] As Rousseau suggests, the first form of language will be largely figurative, expressing meanings whose proper conceptual determination will be thought and spoken only as grammatical structures become more fully realized.[111] If one distinguishes prosaic from poetic expression in respect to how much language can free itself of imagery and stick to conceptual content, then one may also claim, as do both Rousseau and Herder, that language will originally be more poetic than prosaic.[112] Any such poetic beginnings cannot, however, provide the aesthetic dimension of true poetry, which, like all fine art, must combine universal significance with the individual configuration of its imagery. To do so, poetry must be infused with thought, which only propositional language can support.

Although language, at the start of its development, must begin with the most rudimentary grammatical organization and the most residual predominance of figurative meaning, this does not signify that linguistic practice will first consist of onomatopoeic expressions, where words and phrases imitate the phenomena they designate. Rousseau, like Herder, suggests such original onomatopoeic forms, as if language began by

imitating the sounds of objects, first using the inarticulate tones of natural voice and then progressively refining and diversifying them by interposing consonants between vowels, adding accents, and using quantity and rhythm to produce new combinations and relationships.[113] As Rousseau recognizes,[114] this would still restrict language to a vocabulary of nouns, with possible synonyms but few adverbs or abstract expressions. Such "language" would "persuade without convincing and would represent without reasoning,"[115] since propositions would be virtually absent. Even then, however, semiotic imagination gives individuals the ability to produce names with no intrinsic connection between their sensuous configuration and their meaning. Moreover, once naming gives way to language, propositions must begin to be articulated, bringing in some degree of abstraction and thought.

Nonetheless, since language, in its initial development, has just begun to generate the resources for discourse, can one follow Rousseau in distinguishing stages of language development that correspond to distinct historical periods and forms of political organization? Rousseau bases his differentiation on the plausible principle that language alters in function of the complexity of the needs and affairs of its conversers.[116] Certainly, insofar as the satisfaction of their needs and the conduct of their affairs call for discursive deliberation and interaction, their language will be under pressure to develop in appropriate response to these demands. Rousseau maintains that this response takes three fundamental forms reflecting the difference in need and affairs of savage, barbaric, and civilized peoples. The first form allegedly uses words (as well as crude writing) to represent particular objects themselves. It thereby constitutes a "passionate language" serving a hunting society whose bonds and needs do not yet have any universal, lawful character but instead have a purely particular character that only images can express. Once the linguistic community has left this "savage" condition behind to live the barbarian life of herdsmen and unite under common laws rooted in some autocratic tradition, language uses words and propositions, represented in conventional characters. When a civilized society has emerged, language emerges that can be represented by alphabetic writing.[117] Rousseau further distinguishes languages of the South from those of the North. In the mild climate and fertile lands of the South, language develops as a "sonorous, accented, eloquent"[118] expression of "children of pleasure rather than need."[119] By contrast, in the miserly, cold regions of the North, language reflects its austere origin in the angry and menacing tone of voice which accompanies its words with harsh, loud, emphatic articulation, as if to say, do "not love, but help me!"[120]

All these differentiations presume that linguistic form can restrict the character of what meaning it can communicate, as if different languages could be bound to the expression of certain contents. Any given language certainly has a specific vocabulary reflecting the environment and culture of its conversers. The conditions of word and sentence production, however, always allow for the introduction of new vocabulary, the modification and diversification of the meaning of words and phrases already in use, and the formulation of indefinitely varied and novel sentences. The generative character of even the simplest grammar challenges any restriction of a particular language to a specific type of community. The very protean nature of language insures that a linguistic community can transform its ethical institutions and artistic, religious, and philosophical culture without having to transform its language in any comparable degree.

Rousseau has a more relevant but comically ludicrous consideration in mind when he differentiates languages with respect to how favorable they are to liberty. In order for institutions of political freedom to operate, Rousseau suggests, the language of citizens must be understandable at a sufficient distance so that the people in a popular assembly can make themselves heard. Some languages are particularly resounding and harmonious, whereas others, like Rousseau's own, are more suited for "murmuring on couches."[121] Indeed, "any tongue with which one cannot make oneself understood to the people assembled is a slavish tongue and it is impossible for a people to remain free and speak that tongue."[122] Could, however, speakers of one language be so handicapped by its specific features as to render self-government unworkable? Could they have managed to develop and acquire their language if it were so incapable of being understood at any appreciable distance? One can imagine a community lacking sufficient sensorimotor capacity to engage in discourse within specific situations, but even then, could there be no alternative avenues of linguistic communication or more amenable structures of popular rule?

Although a propositional grammar will provide generative resources for the free development of thinking, the incremental establishment of that grammar proceeds from linguistic materials that initially leave intelligence restricted to figurative general representations. Since the grammar of propositional discourse can be employed for sentences that do not express logical relationships, as grammar develops, it will be used in different ways as thought itself emerges. At the outset, words and sentences will be predominantly figurative in meaning, and only gradually will the same grammar be employed for increasingly logical

discourse. Consequently, a community can undergo a linguistic development where it advances from the expression of figurative meaning to logical thought without any radical transformation of its grammar or vocabulary.

This development will partly resemble the ontogenetic development of language acquisition. Young children will begin using words to express figurative meanings related to congeries of images drawn from particular intuited objects and only later use the same words to express and think logical meanings determined by relations between conceptually determinate words, as given in definitions, and more generally in the discursive web of judgments and inferences. What is fundamentally different about the ontogenetic development of childhood language acquisition is that the transformation of word and sentence meaning from figurative to conceptual content occurs in interaction with the discourse of adults, who have already made that transition. By contrast, a linguistic community must make that move from pictorial to logical discourse on its own, unless it encounters the tutelage of another group.

The history of language development will thus involve transformations of meaning where words will retain the same referent but take on more conceptual significance.[123] A name never signifies a concept when it is first baptized, since conceptual determination depends upon propositional discourse. Consequently, a name's original meaning will be too restricted or too wide to fit the conceptual nature of what it designates. The same will be true of the sentences that are first constructed before propositions take on the logical functions of judgments and inferences. Consequently, as thought cultivates itself with the grammatical resources at its disposal, the language in which it develops will be a linguistic battleground pitting the imagery of figurative representation against the logic of conceptual discourse.[124]

Linguistic communities that remain bound to imagery are unlikely to leave behind any relics or recorded history providing evidence of their language and its discursive evolution.[125] Testimony of such a development is indirectly available in studies of how language usage gets transformed in "primitive" communities subjected to modernization from without. A. R. Luria provides striking accounts of such a linguistic development among illiterate peasants from Uzbekistan and Kirghizia during the period of collectivization in the Soviet Union.[126] Those who still engaged in subsistence labor and had no formal schooling used words and grammar in common with their compatriots who had become educated and participated in the collective operations of their kolkhoz. Whereas the former conversed in sentences restricted to graphic and functional

meanings applying to specific situations they had experienced, the latter used the same language to discuss logical relationships and categorizations that transcended the immediate reach of their own intuitions and figurative memory. These educated former peasants, who now were enlisted in implementing the planning of production tied to the wider network of the Soviet economy, had made the transition from a figurative to a conceptual language use, much as Rousseau seems to sketch in the move from "barbaric" to "civilized" community. Unlike Rousseau, however, Luria accounts for not a new vocabulary and grammar but rather a new employment of propositional language that makes fuller use of its role as a vehicle of thought. Although Luria tends to suggest, in Marxist fashion, that the change in social conditions produces the transformation of language use and thought, the altered economic practices themselves incorporated discourse employing logical thought to manage the universal character of their new relations of production.

4.3 The inner speech of thought

Whereas language cannot emerge without an intersubjective practice using some external medium or media of discourse, thought can thereafter always operate as an inner speech, unexpressed to others. This transformation of an interpersonal linguistic process into an intrapersonal intellectual activity[127] relies upon the same activity of imagination whereby intuitions became transformed into images, images became internalized into the trove of memory, and signs became internalized into represented names, which then became internalized into verbal memory. In the case of the thinking of inner speech, imagination inwardizes the propositional practice conversers experience in communicating grammatically. This involves both the reproductive verbal imagination by which discourse is remembered and the productive verbal imagination by which discourse is freely produced in inner discourse. Imagination is required because even if the content is purely conceptual, it cannot be formulated without imagined verbal configurations.

The prevalence of inner speech cannot be underestimated. Most thinking is never expressed to others but remains in the recesses of subjective inwardness.[128] Moreover, the pace of thought often outstrips its external communication, for thoughts may be fully verbalized in inner speech before there is time to articulate them to others.[129]

Nonetheless, thought, like any other mental activity, has a neurological realization, as well as accompanying cardiovascular alterations, facial expressions, and other physical manifestations. Consequently,

the inner speech of thought is concealed from others only so long as its physiological actuality is not made available in a way that exposes its meaning. Neurological connections and activations are themselves plastic and have determinate significance only in relation to the entire sensorimotor system of the body, as well as to the environment and history of the individual. Therefore the only way observations of brain activity could reveal the meaning of any thought is if prior correlations have been made between recorded neural processes and the externally expressed meaning of the thought in question. The same can be said of other physical accompaniments of ongoing thought processes, such as lie detectors purport to analyze.

Whether inner speech is completely hidden or not, it has its own internalized imagery, which may be visual, auditory, or even tactile for those, like Helen Keller, who acquire language despite being blind and deaf. Presumably those who primarily use voice to communicate will think mainly through imagined inner speech, whereas those who can converse only by visible signs will think via an inner imagined sign language, whereas the Helen Kellers who can perceive the language of others only through touch will think in imagery of touch sensations.

It might therefore seem that the inner speech of uncommunicated thought is identical to "outer" discourse in form and content, with one qualification. Namely, the configuration of inner speech resides in the subjective semiotic imagination of the thinking individual, whereas communicating discourse gives some external observable expression to its words and sentences.[130]

Since, however, solitary thought is self-directed, it need not employ all the linguistic resources necessary to achieve communication with others. The silent discourse of uncommunicated thought can forgo all the elaborations and explanations that may be required to discourse intelligibly with others. Prior thoughts and memories that are essential to the meaning of current thinking need not be explicitly rehearsed in one's own inner monologue. Phrases and sentences need not be completed, especially when a new train of thought intrudes. Although one's own thought cannot be meaningful without sufficient grammar, one can use ellipses, abbreviations, and fragments in inner speech to an extent that would undermine the expression of the same thoughts to others.[131]

The functional differences of inner and outer speech are thus reflected in structural differences. Whereas outer speech is engaged in social communication, inner speech is a personal activity. Consequently, inner speech can exhibit such an "extreme elliptical economy" that the speech patterns of overt discourse can barely be recognized in the

silent monologue of thought. This discrepancy leads Vygotsky to question whether the two discursive processes can have parallel geneses and operate concurrently.[132] He presumes that the functional and structural disparities between inner and outer speech mandate some intermediate stage by which the interpersonal practice of linguistic communication can become the intrapersonal activity of thought. Vygotsky identifies this intermediate link as "egocentric speech," which, as Piaget has described it, forms a stage in the acquisition of language and thought by children within a preexisting linguistic community, where a child talks out loud but only to him or herself.[133] Needless to say, if the founders of language are to internalize their developing overt speech and begin to think without communicating, they will do so without having undergone some intermediate childhood phase. As described above, the resources of semiotic imagination provide all that is needed for intelligent adults to think with the propositional resources their overt discourse has provided.

4.4 The acquisition of language in a preexisting linguistic community

Once language begins to develop, a new process of linguistic interaction, fundamentally different from that by which language is inaugurated and augmented, can occur. This is the process by which language is acquired by individuals who grow up in a preexisting linguistic community. Admittedly, language acquisition by such children plays a constitutive role in the further incremental development of language, since each successive generation builds upon the given language it acquires when it supplements that prevailing linguistic practice with new vocabulary and additional syntactical rules. Nonetheless, the acquisition of a preexisting language involves a linguistic interaction that must be distinguished from that through which language is gradually established.

The marked difference between these two types of linguistic interaction can be obscured by two factors. First, both processes are interpersonal. A child masters a language already spoken by others only by both hearing what they say and engaging them in conversation. Without that interaction, children remain prelinguistic brutes, like those raised by wolves or left in seclusion like Kaspar Hauser. Second, children raised with linguistic interaction acquire the language spoken by their community without need of any explicit tutelage. Taken together, these features make it seem as if a child acquires the prevailing language by engaging in a process equivalent to that by which language is inaugurated. Herder

suggests this equivalence insofar as language acquisition does not depend upon formal teaching but instead occurs as a seemingly natural process, where children reproduce something like the original formation process of language, reinventing it step by step in tandem with exposure to the language of their elders.[134]

This untutored language acquisition, however, differs from the interaction establishing language precisely because it does depend upon interaction with individuals who already converse in the language that is to be acquired. This dependency is not a matter of mimicry, such as parrots achieve when reproducing the sounds of speech they hear their keepers using. Language mastery, after all, is not a matter of duplicating words and sentences but of acquiring the grammatical know-how to generate an infinite wealth of novel communicable expressions and to acquire the propositional prowess to formulate meanings that are conceptual and objectively and intersubjectively valid.

Significantly, although parrots and apes can engage in mimicry, they do not on their own acquire any bona fide language competence by simple exposure to the discourse of humans. They can be taught to use a very limited repertoire of words and phrases, with which they can sometimes exercise a limited spontaneity of phrase formation.[135] They never, however, do what every unimpaired child does – independently acquire whatever language to which they are sufficiently exposed.

The capacity to acquire language in this natural way may occur optimally only during a specific stage of psychological maturation, after which language may only be acquired through formal instruction. That window of linguistic capability enables children to acquire any language in whose practice they are immersed. This suggests that they have a common "language faculty" allowing them to master a particular language once they receive the stimulation of extended interaction with its users. That faculty is shared by them all and must consist in a general endowment whose activation in response to the specific linguistic activity of others results in a progressive mastery of the particular vocabulary and syntax that is encountered. What guarantees that any human language can be so acquired is that the language faculty that is stimulated into action by exposure to a particular language is also the same endowment that enables intelligent human individuals to inaugurate and augment a particular language in the first place.[136] Generally, what allows communication to take place between any speaker and hearer is that they possess virtually identical generative systems of syntactical organization, ultimately rooted in an underlying uniformity in their innate psychological capacities.[137]

To the extent that any language must provide the grammatical resources for propositional discourse, there is no reason to limit our language acquisition to merely human tongues – so long as we can be exposed to the linguistic practice of nonhuman intelligent individuals in a perceivable way, the possibility of acquiring alien languages without formal instruction should be secure. Although extraterrestrials may have a very different genetic endowment from humans, if they are language users, their innate biology must include capabilities comparable to those of human interlocutors.

The nature of language dictates what psychological development children must undergo in order to acquire language by growing up in a linguistic community. Insofar as language involves names that have a prepropositional figurative meaning as well as a generative grammar that makes possible conceptual discourse and logical determination of word meaning, children must be able to recognize and reproduce these aspects of linguistic practice.

To begin with, children must be able to apprehend the figurative meaning of names established through the triangulation between conversers who recognize one another's naming in relation to commonly observed experience. This requires that children have undergone the prediscursive psychological development by which the psyche acquires habits and expresses its feelings, thereby establishing a conscious awareness distinguishing subject and object, which then must become self-consciousness in differentiating itself from other selves. Children must also acquire the common-sense awareness of the world they share with other members of the linguistic community, including a consciousness of things and their properties, the dynamic relations of objects, and the distinctions between inanimate things and life and between living things with and without minds. The mind of the child must equally begin to engage in the prelinguistic activities of intelligence, producing, recalling, and associating images in preparation for generating symbols and signs. In addition, children must develop the sensorimotor control sufficient to orient their sense organs and articulately express themselves so as to be able to begin participating in linguistic interaction. Without all these prediscursive, preconceptual psychological developments, children are in no position to start verbalizing and distinguishing their own verbal expressions and those of others in respect to a world they inhabit. Accordingly, the three dogmas that preclude any comprehension of the inauguration of language equally make unintelligible childhood acquisition of language within a preexisting linguistic community. All the above necessary psychological developments contradict these three dogmas of

mind//body dualism, the reduction of mind to consciousness, and the identification of consciousness with discursive awareness.

The psychological maturation of the psyche, consciousness, and intelligence to the point of providing the ability to produce signs and participate in the triangulations by which names are made communicable is, of course, only one preliminary side of natural language acquisition. Children must further recognize, internalize, and employ the specific grammar progressively exhibited in the discourse to which they are exposed and in which they begin to participate. This does not involve an explicit knowledge of syntactical norms but a developing practical linguistic know-how sufficient to engage in overt and inward discourse.

Moreover, the mastering of grammar does not occur through any explicit decision to conform to its norms.[138] Given sufficient exposure to grammatical speech, children become adept users of grammar just as automatically as they come to develop depth perception and the ability to walk.[139] They need not be motivated by any specific desire to learn to converse. Language acquisition happens as an unconscious psychological development, mediated by the self-conscious experience of exposure and involvement in a surrounding linguistic community.

This does not mean, however, that either the communicative function of language or the public character of rules of correct usage is unessential and contingent, as Chomsky suggests.[140] Although the ability to absorb a generative grammar can be innate, it still must be activated by the child's observing and participating in public linguistic interaction, whose prepropositional namings and propositional discourse both depend upon interpersonal activity in recognition of shared linguistic norms. Inner speech may come to dominate linguistic usage, but it cannot itself operate unless overt speech has taken its communicative pathways.

This public and communicative character of language is exhibited in every grammar to which language users must habituate their discourse. Universal grammar may be determined by the necessary requirements of propositional discourse and be activated on the basis of an innate language faculty that is not the product of any public, communicative interaction. Nonetheless, universal grammar is realized in a language only in conjunction with contingent conventional syntactical norms ingredient in the specific usages of a linguistic community.

The grammar that children must employ in becoming discursive thus has universal and particular aspects dependent upon publicly communicated norms of usage. Both aspects of grammar must be mastered in order for children to be able to freely produce new verbal expressions

appropriate to the novel situations they encounter and to acquire the lexicon of nonfigurative, conceptually determined words whose meaning lies embedded in propositional discourse. Only then can a child move beyond the limits of mimicry and ostensive reference to become a genuine interlocutor, expressing thoughts to others and formulating thoughts in inner speech.

To do so, the child must be able to make linguistic sense of the conversations he or she experiences, acquiring both a widening understanding of vocabulary and a growing facility to apprehend how grammatical norms contribute to the propositional meaning of sentences. Children cannot achieve this at once, from their very first encounters with the language around them. The linguistic materials to which they are exposed cannot reveal their own significance without repetitions and diversifications in relation to similar and varied contexts. Further, this unfolding exposure occurs simultaneously with the psychological maturation of the child, who becomes more mentally capable of comprehending and participating in the encompassing linguistic activity. On both accounts, the acquisition of language has a necessary sequential development. At some point, however, the process comes to a consummating plateau, where the erstwhile child emerges as a competent discursive agent who can communicate in a particular language on a relative par with those whose discourse has facilitated that acquisition.

This process occurs without formal instruction in language as well as without instruction in reading and writing, and these further linguistic formations must be addressed on the basis of what the "natural" acquisition of a language independently provides. Whether formal language and literacy instruction engenders an enhancement of discursive thought remains to be seen.

It should be kept in mind that childhood language acquisition need not be limited to spoken language of hearing individuals. Since the process operates with mental resources that are not restricted to a particular sensory medium, children who must communicate through visual signs are not prevented from independently acquiring the sign language they see practiced around them. A deaf child brought up by deaf parents who communicate by signing can pick up that sign language completely analogously to how a hearing and seeing child can learn to speak from hearing and seeing parents. Whether the same is true of children restricted to touch sensations is another matter. As the stellar example of Helen Keller indicates, even a deaf and blind child can acquire linguistic competence. Keller, however, had to rely upon the unrelenting instruction of a hearing and seeing teacher, who helped Keller gain the ability

to communicate her thoughts by vocalizing and typing text. One might wonder whether Keller had to learn language like an adult Kaspar Hauser, who may have been freed from isolation at an age beyond the window for acquiring language without instruction.

4.4.1 Universal grammar and the acquisition of language

Universal grammar is crucial to language acquisition insofar as it contains the generative principles that any language must possess to be a vehicle of discourse. No child or any adult can acquire a language without making use of universal grammar. Further, no child or adult can make use of universal grammar without having the capability of doing so. Insofar as children acquire language without instruction and without any conscious decision, the capability for activating universal grammar is something innate, given in the psychological nature common to individuals who can become linguistically competent.[141]

Chomsky concludes from these considerations that the acquisition of a particular language by a child involves an unconscious selection process where the child's innate language faculty explores the linguistic data to which the child is exposed and determines which of the possible particular grammars is there in operation.[142] One might compare this unconscious procedure to that consciously followed by Kepler, who presumed that God's reason mandated that nature would have a rational mathematizable form but that God's will determined which of the possible mathematical schemas would be actualized in creation. Accordingly, Kepler had to turn to observation and see which mathematical formula best fit the planetary orbits he recorded.[143] Chomsky's claim might make it appear that there is a finite array of possible particular grammars, whose distinguishing features could be determined from an analysis of universal grammar. Admittedly, there can be no particular grammar that does not incorporate the universal generative principles that are prerequisite to propositional discourse. At times Chomsky will allude to artificially constructed grammars that could not be "learned" because they are incompatible with universal grammar,[144] but it must be questioned whether such "grammars" can order a genuine language rather than an impostor. In this respect, universal grammar does set limits to what a particular grammar can be, but that does not mean that it determines the differentia that distinguish particular grammars from one another. Unless universal grammar does determine their differentiation, it cannot play the role of an unconscious selection procedure that chooses among possible particular grammars to find the appropriate generative schema underlying the

linguistic data confronting the developing child. Universal grammar cannot determine the differentia of particular grammars because what distinguish them are conventional norms of usage that arise through the concordant verbal practice of the members of a historically contingent linguistic community. Whether that community is the originator of language or an outgrowth of millennia of previous linguistic history, what it adds to universal grammar are compatible supplements whose specific character is devoid of any necessity. Chomsky admits something reflecting this contingency: that no general translation procedure can be derived from universal grammar.[145]

Consequently, the untutored process whereby children gradually absorb and master the particular grammar of the language in which they are raised does not rely upon activating wholly innate generative schema. Children must have the ability to habituate their verbal intake and production to accord with contingent generative schema that are gradually unveiled through their experience of hearing and speaking or of viewing and returning sign communications or of feeling the vocal vibrations of others and producing one's own in turn.

Can this consist in "a step-by-step process of generalization, association, and abstraction going from linguistic data to the grammar" of the particular language children experience?[146] If such a process of empirical analysis had to be consciously undertaken, children would become conversant only after arriving at an explicit knowledge of their particular grammar, as full-fledged linguist prodigies, and after having trained their power of thought and articulation to employ that knowledge. Moreover, they would have to perform this inductive investigation and training before they had acquired the discursive thought enabling them to conceive and identify the grammatical rules that they would only have at their command, on this account, after having undertaken their rational analysis. Further, to uncover anything like a complete grammar, they would have to encounter so much linguistic data as to leave that occurrence beyond the range of common childhood experience. On all these grounds, it is evident that children's appropriation of the particular grammar they grow up with must take place without any such conscious empirical investigation.

Nor can the appropriation of a particular grammar consist in any conditioned response to linguistic stimuli, as behaviorists would like us to believe. Any behavioral explanation is ruled out simply because grammar is generative and language acquisition is not equivalent to obtaining dispositions to give certain fixed responses to certain given stimuli.[147] Instead, the acquisition of language involves activating

a facility to understand and express an indefinite cornucopia of new words, phrases, and sentences that may be elicited by certain situations but are never compelled by any external circumstance to take the form and content they have.[148]

Finally, learning by ostension in interactions of triangulation may play some role in the acquisition of prepropositional names by children, but it can hardly contribute to the acquisition of a particular grammar, whose generative character can never be conveyed by indicating the objective meanings of individual examples of correct usage.

Instead, the process of language acquisition must proceed largely in an unconscious appropriation of a particular grammar, triggered by the extended experience of immersion in a particular linguistic community. Just as habits are acquired automatically through the repetition of similar feelings and actions, so grammatical know-how is obtained without conscious intent or analysis through envelopment in linguistic practice. Because that practice necessarily has its own grammatical form, all children immersed in the same linguistic community will acquire the same language, provided they share the same unimpaired language faculty. Conversely, because this situation applies to any linguistic immersion, children will be able to acquire any language to which they are exposed.[149]

4.4.2 Learning one's native language versus learning a foreign language

How children acquire their first language cannot be equated with how one learns another language. Children can simultaneously acquire facility in more than one language if they sufficiently interact with speakers of different tongues. Once any language has been acquired, however, the conditions for language acquisition become transformed. Instead of depending upon direct experience of immersion in linguistic practice, competent language users learn another language through the prism of the linguistic competence they already enjoy.[150]

Insofar as the configuration of words has no intrinsic connection to what they signify, the meaning they express can always be communicated by other terms of the same language or by words of another language. The same holds true of any phrase or sentence. Admittedly, the challenge of translation is greater when poetic expression is at stake. Since aesthetic expression unites the individuality of its configuration with the universality of its significance, the verbal configuration (be it visual or auditory) of poetry, as well as literary prose, has some

relation to the meaning that a translator must seek to capture in the foreign idiom. Nonetheless, the basic distinction between semantic meaning and verbal expression suggests that, as Cordemoy maintains, the learning of a second language simply involves a labor of translation, where one merely assigns a new linguistic expression to the ideas one already communicates in the corresponding words of one's first language.[151] Since all developed languages have the generative plasticity to give expression to any thought, there can never be any fundamental obstacle to acquiring another language in this manner, provided one can perceive its configurations with sufficient clarity and one has the appropriate sensorimotor capacities to duplicate those configurations.

If the acquisition of a second language is to proceed by translation, where foreign language acquisition is mediated by one's native language, the language learner must have access directly or indirectly to the tutelage of someone who can identify expressions in the second language with those of the first. Whether or not the learning of a second language can proceed entirely by translation and subsequent memorization and practice, there can be no identification between how that language is acquired by its native speakers and how it is taught to someone with another native language.[152] Even if one learns a second language without formal instruction but by immersion in its linguistic practice, one already possesses the fully developed thought and vocabulary provided by one's native language. Whereas the process of learning one's first language is equally a process in which one develops into a discursive thinker, learning another language does not involve any necessary development of one's conceptual ability. Moreover, one already possesses a particular grammar and lexicon, whose similarities to that of the second language can play a major role in facilitating its acquisition.[153] Since one now is learning a new language in constant relation to one's native knowledge of another, one obtains a more explicit familiarity with what is universal in linguistic practice instead of being limited to one particular grammar and lexicon.[154] Unlike the unconscious acquisition of one's first language, the learning of a second language can therefore take advantage of a conscious and intentional commitment with which one uses one's knowledge of grammar and vocabulary to supplement whatever assistance a language teacher provides.[155] This may be the only available option if one has left behind that developmental window where one can unconsciously acquire a language through nothing more than extended exposure.

4.5 Stages in the acquisition of uninscribed language

The acquisition of an individual's first language is necessarily a prolonged sequential process. This extended staged character is not due simply to the length of physical and psychological maturation, which has a relatively extreme duration in *Homo sapiens* and must be accommodated in human language learning. Even if an individual capable of linguistic intelligence attained relatively mature sensorimotor control and cognitive development soon after birth, that individual would still have to undergo a protracted linguistic development. This is due to the necessity of having to experience enough linguistic data and to participate in enough linguistic interaction (including the acquisition of shared common sense and a significantly shared way of life) to activate innate linguistic capabilities and acquire competency in the particular grammar and lexicon of the linguistic community in which that individual is immersed.

These innate linguistic capabilities (which include the innate sensorimotor abilities to apprehend the verbal communications of others and to communicate verbally with them in turn) must be sufficiently similar among the language acquirer and the members of the surrounding linguistic community to enable successful verbal communication. There may be differences in the relative speed with which different children acquire mastery of vocabulary and grammar, but those who are to become competent language users must be able to progress to the same threshold of propositional discourse, where linguistic maturity is attained. At each stage along the way, the developing child will build upon whatever vocabulary and syntactical norms it has mastered.[156]

This process is not just a matter of acquiring vocabulary and grammar. Language acquisition involves the development of propositional discourse, where intelligence advances from occupation with figurative general representations to thinking concepts, making judgments, and inferring conclusions. The emergence of grammar sufficient for sentence formation makes possible the transformation of word meanings from prepropositional representations to concepts embedded in the logical relations of judgments and syllogisms. That possibility, however, is not automatically realized, since propositions can be grammatical without being judgments determining individuals and particulars through universals. Consequently, even when language acquisition arrives at the stage of propositional grammar, there will be a period in which sentences still use words with figurative meanings, which only

subsequently get progressively supplanted by propositional speech that uses concepts, judgments, and inferences. In this way, the ontogenesis of childhood language acquisition will exhibit stages analogous to how a linguistic community might initially limit its use of grammar and vocabulary to figurative general representations and later use that same grammar and lexicon to express logical thought under the impact of an external instigation.

Two further aspects of language development contribute to the phasing of language acquisition. First, once language begins to be acquired through exposure to and overt interaction with the surrounding linguistic community, the child can engage in inner speech, which, as we have seen, has its own distinct function and structure. Second, children may be exposed to formal instruction by adults. This may include teaching children to understand and produce language that is inscribed in some way, such as writing. Instruction may more generally educate children in a body of knowledge and know-how extending beyond the common sense they acquire without formal teaching.[157] This taught knowledge will impart a new type of vocabulary as well as a new body of thinking. The exposure to such instruction may be contingent, but the very culture that discourse makes possible carries with it the need and normative imperative for an education in and supportive of cultural conventions, without which individuals will be unable to participate adequately.

Accordingly, primary language acquisition will pass through the following stages: (1) At the outset, there will be a period in which children apprehend the ostensive meaning of prepropositional names and acquire the ability to communicate those names to those whose naming behavior they encounter. (2) A stage will then follow where children begin to master syntax, understanding and constructing phrases and elementary sentences in which meaning remains bound to prepropositional general representations. (3) With this development of prelogical sentence formation, children can proceed to internalize such interpersonal discourse and engage in rudimentary inner speech, with the contractions, abbreviations, and ellipses it involves. (4) Having mastered sufficient grammar to generate propositions and encountering adult speech that uses logical determinations, children can employ words and sentences that they formerly used for figurative expression as vehicles for conceptual discourse. (5) When these developments are compounded by formal instruction, children can acquire a conceptually determined "scientific" vocabulary and theoretical expertise that thereafter will inform their overt and inner discourse.

Although children acquiring language in a linguistic community are exposed to fully competent propositional discourse and not just impersonations of infantile baby talk, it is natural that they first acquire names through ostension, names which thereby have a figurative meaning. This prepropositional name acquisition can come first because the triangulation it involves does not depend upon grammatical discourse. Rather, grammatical discourse itself must incorporate words that have a prepropositional significance, since the generative rules of grammar do not determine the content of the words they govern. Although propositions do transform the meaning of the terms they possess through predications and relations between predications, this discursive process initially depends upon names being at hand to undergo that transformation. Such naming occurs well before the child has either recognized grammatical speech or become able to perform any imageless, logical thinking.[158] Indeed, at the very start children are observed to treat the name not as a sign indicating a referent but as an attribute of its object. Only later does the child comprehend and use the name as something with meaning rather than as a factor causally connected to a thing.[159] Once the word's semiotic function is mastered, the child can begin to search actively to discover the names of the fixtures of his or her world, something with no counterpart in the signaling and expressive communications of brute animals.[160] Nonetheless, acquiring words through ostension is an extremely limited practice, given how it depends upon actual encounters with particular objects in conjunction with observed verbal expressions of others.[161]

What hugely expands the bounds of verbal expression is the second stage of language development, where, on the basis of name acquisition, children begin to communicate grammatically, no longer just articulating heaps of names but using them in phrases and sentences. To begin with, the words in question have a prior figurative meaning that is set to be transformed in propositional usage. Children will thus be observed using words to signify general representations without yet understanding the conceptual significance they have in adult usage. Aristotle, for example, remarks in the *Physics* that "a child begins by calling all men father, and all women mother, but later on distinguishes each of them."[162]

With children having acquired the ability to understand and communicate figurative propositions, the third stage, in which this primary propositional discourse is internalized as an intrapersonal intellectual activity wherein the child engages in formulating and organizing its own thoughts, can begin.[163] The emergence of inner speech can be preceded

by what Vygotsky and Piaget call "egocentric speech," where a child speaks overtly, not to communicate with others, but to reflect upon and direct his or her own behavior. Although the overt form of egocentric speech makes it appear to be embedded in interpersonal communication, it is self-directed, treating the child as both subject and object of its linguistic expression. This enables the child to use verbal means to plan and broaden its range of activity to a degree that no brute animal can duplicate.[164] Not surprisingly, the more difficult a child finds its tasks, the more egocentric speech predominates.[165]

Egocentric speech thus prepares the way for the intrapersonal function of inner speech, which does not require any overt expression to be fulfilled. To the extent that a child can internalize overt speech that is not just egocentric, all the interpersonal norms that are communicated in linguistic practice can now be inwardly articulated and reformulated, serving to help guide the child's behavior in respect to the normative conventions of its encompassing community.[166] Egocentric speech no less than speech directed to others has an intersubjective character, with respect to the interaction through which it arises, the linguistic form it takes, and the content it expresses.[167] It is not a "private language," nor, as Piaget suggests, a linguistic stage preceding verbal communication with others.[168]

What follows in the next, fourth stage of language acquisition is the transition from figurative to logical propositional discourse. This development reflects how the distinction between grammar and logic allows the child, as Vygotsky puts it, "to master the syntax of speech before the syntax of thought."[169] The key to this transition lies in two related connections, both based on how the child receives all the syntactical and lexical material for its verbalizations from those of the speech community with which it interacts.[170] On the one hand, the child uses words and grammar that are the same as those adults employ, without apprehending the logical relations these verbalizations express in adult discourse. The child links terms and phrases with positive and negative copula, quantifiers, and conditional connectors without grasping the logical relations of judgment and inference that these expressions can signify.[171] On the other hand, the figurative meaning of child usage is contained in the conceptual meaning of the corresponding adult usage. For example, a child may use the term "flower" to signify a particular group of flowers (e.g., roses, daffodils, and tulips) belonging to the class of flowers, which adults understand to have a more logical, universal significance within botanical taxonomy. Because the same words and syntax are used and the figurative meanings are contained within the

logical hierarchies of conceptual discourse, the child can communicate with adults and begin to express logical propositions before being fully aware of their conceptual character.[172] This inadvertent practice in conceptual discourse becomes explicit once the child comes to recognize how adult use of terms puts figurative contents into a logical ordering.[173] Although the same vocabulary and grammar are employed by both child and adult, when the child comes to confront the difference between figurative and logical meanings, there is no hiding the discrepancy between the claims communicated by child and adult. By experiencing this collision of competing discourses, the child can discover the inadequacy of its figurative expressions and thereby attain the ability to apprehend and express explicit conceptual thought.[174] At this point, the acquisition of language converges with the acquisition of thought, for now the child begins to verbalize thinking and communicate rationally.[175]

The stage is set for the young language acquirer to participate in the process of Socratic elenchus, where what a word truly signifies becomes a subject of rational inquiry.[176]

4.6 Inscribed versus uninscribed language

Language can first develop and be first acquired as spoken or as expressed in visual signs, such as in sign language used by the deaf. In either case, this initial form need not be followed by the development of written language, understood in the most general sense as language that is inscribed in some durable expression. Not only may individuals remain illiterate throughout their lives, but entire linguistic communities may emerge and pass away without ever inscribing their language. Indeed, human prehistory suggests that untold thousands of years passed before humans invented the first forms of writing. It could thus appear that uninscribed and inscribed languages are two entirely separate innovations.[177]

Spoken or, more generally, uninscribed language, however, is at least in part the necessary basis for the emergence of written language. Aristotle gives expression to this dependence of written upon uninscribed language, writing in *De Interpretatione* that "spoken sounds are the symbols of affections in the soul, and written marks symbols of spoken sounds."[178] Aristotle's formulation seems too narrow in two respects. On the one hand, he treats uninscribed language as solely spoken and, on the other hand, presumes that written language is not hieroglyphic but solely alphabetic in form.[179] If we were to widen inscribed language to

include inscriptions that would give durable expression to sign language, the dependence to which Aristotle refers would still apply. Where sign language is written down in images of the different signings, these inscribed graphic images would signify the actual signings they picture, and the order in which they are inscribed would designate the sequence in which they are made in uninscribed communication. Similarly, if blind speakers developed Braille inscriptions as a form of writing, the placement of their raised indentations would signify the sounds and sequence of words and thereby convey verbal meaning.

Hieroglyphic writing would, admittedly, seem to escape any such dependence, since hieroglyphs are graphic symbols that designate their meaning independently of any relation to the sounds of speech. Nonetheless, because producing hieroglyphs is unwieldy for immediate communication, even hieroglyphic writing lends itself to be read as spoken language, as the living example of Chinese character writing continues to demonstrate.[180]

Whatever form it takes, writing comprises a monumental advance in the development of culture by recording discourse in a durable and duplicable manner. No longer need individuals limit their exposure to the thoughts of one another to conversations in which they directly participate or to their memories of such discussions. Now writing makes possible a transmission of discourse that extends well beyond the spatial and temporal boundaries of individual experience. A cultural heritage can now develop that preserves, builds upon, and spreads its wealth of literature, religious doctrines, and technical, scientific, and philosophical knowledge, all with a reach and depth that oral tradition can never equal.

Despite these obvious benefits of writing, many have followed the written words of Plato's *Phaedrus* to castigate writing's alleged deficiencies in contrast to "the living, breathing discourse of the man who knows, of which the written one can be fairly called an image."[181] Whereas writing is a supposedly dead letter, whose unchanging inscription cannot inform the reader of the knowledge from which it springs, react to criticism, or direct itself to its proper audience, living speech "can defend itself, and it knows for whom it should speak and for whom it should remain silent."[182] Indeed, as Plato's written record of Socratic questioning so paradigmatically exhibits, spoken language can put the meaning of words into flux and enable many-sided argument to generate a new understanding of what concepts should signify.[183]

Such objections ignore and yet exemplify in their own written formulations that writing has an intersubjective reality consisting not simply

in its spatial configurations and the inscribed thought of an author but in the discursive significance its statements have in the living cultural world in which it is read and understood. Written words speak only in the discursive apprehension of the reader, who must interpret the text in order to obtain its meaning. Reading is therefore a living interpretive process in which the discursive intelligence of the reader is probing what it takes to be the product of the discursive intelligence of the author. This involves considering the cultural context within which the author is embedded and the universal truths that thought addresses and cannot be concealed from discursive intelligence. Consequently, the text does not have a dead, fixed meaning but one that is always subject to critical reinterpretation in terms of thoughts whose meaning is always communicable rather than indeterminately opaque. Reading is thus a dialogue between author and reader, and for this reason, what spoken discourse offers is already present in the appropriation of written texts. When Plato offers his written dialogues, they do not, contra Davidson, only *portray* the interchange in which the conceptual determination of words is subject to the transformations of rational inquiry.[184] As a text to be read, Plato's dialogues become themselves part of an interchange between author and reader, an interchange which continues to this day whenever a Davidson or anyone else considers their meaning.

4.6.1 The acquisition of inscribed language

Inscribed language is not acquired in the same way a child originally acquires uninscribed language, be it spoken or signed. Children become speakers or signers of their first language through immersion in a linguistic community without any conscious intention or formal instruction. By contrast, inscribed language is acquired through teaching, either with the direct aid of a literate instructor or through self-instruction guided by teaching materials.[185]

Underlying this difference is the dependence of inscribed on uninscribed language. When one learns reading and writing, one does so on the basis of one's competency in spoken or sign language. Writing, whether hieroglyphic or alphabetic, is apprehended and reproduced in relation to the verbal mastery the learner already possesses. This is most obviously the case in acquiring mastery of alphabetic language, since its graphic signs designate sounds of spoken language, whose own verbal meaning must be understood to decipher writing.

Could this dependency still allow for the acquisition of reading and writing in the untutored fashion by which spoken language is first acquired? One might be tempted to argue that this dependency

undermines the possibility of uninstructed attainment of literacy because of its temporal sequencing. Namely, by the time an individual acquires the spoken competency needed to become literate, the developmental window has closed during which a child is still able to acquire a language automatically with sufficient exposure. Even if, however, literacy is attained while the child still has that capability, the particular character of inscribed language makes problematic any duplication of that original process. First of all, whereas spoken or sign language is continually addressed to the child in reference to objects and actions with which speaker and hearer interact, written language does not automatically intrude upon the child independently of instruction. In particular, the presence of writing occurs in texts that are ordinarily not in any observable relation to what they designate or to the spoken speech they could be said to represent. Without those connections, which formal instruction provides, the child has no way of deciphering the meaning of writing nor how it provides a second-order signification of the first-order signification of speech.[186]

Although literacy may not be achieved without instruction, one can acknowledge an intermediary spontaneous development, where a child begins to make graphic marks to designate objects and actions. To begin with, these marks symbolize what they designate, taking the form of pictorial representations of things. In this way, representational drawing emerges as a stage of childhood development, a stage that Vygotsky, for one, observes unfolding only after a child has begun to speak about the world.[187] Only with the mastery of some linguistic practice does the child have the psychological resources to regard a drawing, denoting an abstractly grasped figurative content, as a representation of something else. Whereas before verbalization the child may make marks as expressive gestures,[188] only after naming begins can the child treat his graphic productions as representations of objects and actions. If indeed representational drawing depends upon the verbal capacity to apprehend and express general meanings, then the childhood development of drawing as a forerunner of written language would support Jonas's claim that pictorial representation is evidence of linguistic intelligence and the capability for discursive thought.

In order for drawing to advance to writing, the child must duplicate a discovery that linguistic communities have had to make to invent systems of writing: that one can draw not just things but also speech, that one can graphically designate words, phrases, and sentences.[189] This discovery separates the prehistory of the cave painters from the recorded history of the first cuneiform scribes. It becomes a key to

acquiring literacy when the teacher guides the child from drawing things to drawing words in accord with the preexisting system of writing that a literate community has established for itself over the course of its written history.[190]

During the initial instruction in writing, the connection of written to uninscribed speech remains present, as is evident in how new readers will still vocalize (or sign) what they read as they make their way through a text. At some point, however, that tie will be severed, just as the spoken word came to be understood directly, without having to reimagine the general representation to which it refers. Then the literate individual will read and write without need of keeping in mind the uninscribed speech that writing signifies. Instead, the written word will directly designate what it is about, and reading and writing can proceed without any vocal residue.[191] Verbal memory now becomes literate memory, and inner speech becomes supplemented by inner writing.

4.6.2 Stages in the development of inscribed language

Systems of writing, like the particular languages that they inscribe, have a conventional character, reflecting their origin in the contingent verbal practice of historically given linguistic communities. Nonetheless, writing has three fundamental options, which have each received multiple instantiations in human history. These options are distinguished by the nature of the relation of written characters to the particular language they inscribe.

The first option, whose historical primacy reflects how it may emerge from the drawing that is intermediate between speech and writing, is that of hieroglyphic writing. In this option, the inscribed content of written characters directly pictures what is designated by the words and sentences of the uninscribed language for which they substitute. Here written characters function more as symbols than as signs, even though they arise from an uninscribed language that signifies rather than symbolizes. This is so because analysis of the graphic content of the hieroglyph must indicate its meaning. Accordingly, hieroglyphic characters and sequences of hieroglyphic characters resist the transformations of meaning that words and sentences undergo when propositional discourse alters verbal meaning, moving from figurative representation to conceptual discourse. Since the hieroglyph signifies something contained in its graphic content so long as that graphic content remains unchanged, it is difficult for that hieroglyph to convey new meanings. Rather, whenever an object comes to be understood differently, the hieroglyph used to symbolize it must be superseded by another that better

captures the revised semantic content.[192] Only if the hieroglyph ceases to function as a merely pictorial symbol can it adequately serve the needs of discourse without being altered. Due to these encumbrances, Hegel maintains that only a civilization whose thought is stagnant can retain a hieroglyphic system.[193] The generative plasticity of language cannot, however, be obliterated by hieroglyphic writing, for new hieroglyphs can always be produced, just as old hieroglyphs can take on new meanings in novel combination with others.[194] Such expansions, however, carry with them the need to master an ever-growing proliferation of characters, making the attainment of literacy an imposing challenge.

The second possible writing system, which Rousseau distinguishes from the hieroglyphic picturing of objects,[195] is one which uses inscribed characters to represent words or sentences rather than the things to which these refer. Although these characters are not symbolic but conventional in character, they do not have any phonetic character. In contrast to hieroglyphs, such characters may easily convey the meaning transformations that the words they represent undergo. Nonetheless, since these characters represent entire words or even sentences, a different character is required to write each distinct word. As a consequence, such a writing system, which Rousseau associates with Chinese, must proliferate its characters to numbers similar to those of hieroglyphic symbols. The problem is compounded by any growth in vocabulary, since every addition of a new word or even a new sentence could require introductions of new conventional characters. As a result, the flexibility of this writing system would be hampered by the forbidding demands it puts upon its users and learners.

The difficulties plaguing hieroglyphic writing, as well as the second writing form using conventional characters to designate words and sentences, do not apply to the third form that written characters can take: alphabetic writing. The written characters of alphabetic writing represent not the objects of discourse but the sounds or signings of uninscribed language. Since alphabetic characters represent elements of the configurations of uninscribed language rather than semantic objects, alphabetic writing can effortlessly accommodate the transformations of meaning that enable language to be the infinitely elastic, unresisting medium of autonomous reason. Because alphabetic characters are signs of signs, without any symbolic residue or designation of a general representation, they most properly provide for the expression of imageless conceptual content.[196] Moreover, since words are composed of a limited array of sounds or signs, whereas words and their objects are vastly more numerous, alphabetic characters are much more manageable in

number than hieroglyphs or conventional characters for words. As a consequence, it is far easier to become literate in alphabetic writing than in either of the other writing systems.

Nonetheless, as Hegel notes, the use of alphabetic writing can still be accompanied by hieroglyphic characters, as most modern languages still do in employing written characters that do not signify vocal sounds but symbolize numbers, mathematical operations, chemical elements, and the person who once was Prince.[197]

Moreover, although alphabetic writing is rooted in signifying the configurations of the signs of uninscribed language, the spelling of words may lose any obvious phonetic character. This is most evident in written English, which, as Rousseau laments, must be learned twice over, first to master its spelling and second to master the pronunciation of its written words.[198] As Rousseau explains, these deviations from phonetic purity afflict alphabetic writing whenever a linguistic community becomes conquered by or assimilates speakers who bring a different pronunciation with them but employ the same alphabet.[199] Accordingly, the less a language has absorbed external linguistic practices, the more its orthography will match its pronunciation, whereas the more hybrid a language, the greater the discrepancy there will be between the actual pronunciation of its spelling and the phonetic identity of its letters.[200]

Although orthography may deviate from any strict phonetic parallelism, the emergence of alphabetic spelling can equally bring a precision to pronunciation by confronting readers and writers with a uniform articulation of the vocal configuration of words.[201] As Hegel notes, this service cannot be provided by hieroglyphic systems, whose reading is deaf and whose writing is dumb.[202] Since hieroglyphs symbolize the objects words designate rather than a definite pronunciation, the same word can have a profusion of different meanings. This is also true of the writing system in which characters represent whole words. As the example of Chinese illustrates, these semantic proliferations of word meaning can be indicated only by extreme variegations of accent and intensity, which present an imposing challenge to anyone trying to learn to speak Chinese as a second language.[203]

Given the differences between the fundamental forms of writing, the question arises as to whether they correspond to different forms of community with distinct developments of discursive thought. Rousseau distinguishes the three writing systems as forms that allegedly are appropriate to savage, barbaric, and civilized peoples, respectively. Savage peoples supposedly have their specific writing system in a form of

nonalphabetic notation whose characters represent objects directly, by allegorical imagery, or in the stylized symbols of Egyptian hieroglyphics. This system supposedly fits the needs of a "passionate" language for a community whose order and needs are rooted in the passions rather than in understanding or reason. Barbaric peoples, who are allegedly united by the twofold convention of a completely formed language and common laws, appropriately have a nonalphabetic writing that designates words and propositions by conventional characters, which, as in Chinese, do not directly specify their pronunciation. Finally, "civilized" peoples, who live under a civil condition of policed and adjudicated civil law, are those who characteristically employ an alphabet.[204] Rousseau gives little supporting argument for these broad claims. Hegel, by contrast, does provide some justification for regarding hieroglyphic writing as a system tenable only for a stagnant civilization, which has yet to develop the substantial nonfigurative discursive culture that pushes the generative plasticity of language to its limit. Hegel highlights three interconnected liabilities of hieroglyphic writing (though already described, they are worth repeating).[205] First, since hieroglyphs figuratively represent objects or actions, they cannot readily undergo the meaning transformations that spoken or alphabetically inscribed words easily accommodate when propositions express logical, conceptual determination. Second, because hieroglyphs pictorially represent their object, writing about any new objects or activities requires the introduction of new hieroglyphs, adding to the immense plethora of characters that must be recognized, remembered, and skillfully drawn in order for written communication to proceed. Third, because of these extreme demands, hieroglyphic literacy becomes something impractical for general dissemination and leaves literacy the privilege of a narrow elite. As we have seen, these problems can be partly mitigated by using new combinations of hieroglyphs to express further meanings and by transforming hieroglyphs into signs of words and expressions. Nonetheless, hieroglyphic writing is unfriendly to the development and propagation of conceptual discourse, and it is no surprise that hieroglyphic writing has not been found to be the medium of any substantial philosophical literature.

In considering the connections of writing systems to types of civilization, it must be remembered that the different capabilities of forms of inscription need not be shared by the uninscribed speech that accompanies them. Since uninscribed propositional language cannot be onomatopoeic, its configuration has a conventional character, with no intrinsic

connection to its semantic content. Consequently, uninscribed speech can always do what may be difficult for hieroglyphics.[206] Accordingly, a linguistic community always has the verbal resources to replace hieroglyphics with a more adequate writing system, with which it can further develop its discursive culture and the normative practices to which it is connected. This may be a monumental task, taking generations to complete, but its possibility cannot be precluded.

5
The Psychology of Thinking

5.1 Thought

The psychology of thinking begins both in theory and in reality after language has attained sufficient syntax and vocabulary to actualize propositional discourse. Insofar as the linguistic vehicle of thinking has an infinitely generative grammar and indefinitely flexible lexicon, it leaves undetermined what concepts, judgments, inferences, and systematic arguments can be formulated and transmitted. The development of thinking that language makes possible therefore does not entail any further development of syntax or vocabulary. Thought may generate new concepts requiring additions to the lexicon, but it may equally use the vocabulary at hand and supplement the given meanings of words through the web of propositions its thinking produces. So long as the linguistic community has reached the plateau of propositional linguistic practice and its members have acquired mature mastery of their particular grammar, they are ready to engage in the autonomous activity of thinking.

What enables thought to be free are two factors, both of which are available once linguistic intelligence has provided the psychological resources for thinking. First, the creative generative character of language provides thought with the means to formulate imageless content without any restriction regarding what meaning this content can have or what propositions can be produced to determine that content. Language provides the enabling but not determining condition for conceptual discourse, and as such, it leaves thought free and unconditioned. Whatever limits apply to thought are limits thinking imposes upon itself in untrammeled rational inquiry. Second, the self-determined character of universality enables conceptual content to have an autonomous immanent

development, permitting thought to be both synthetic and a priori. Thought can be ampliative without depending upon experience because the universal, contra Kant, cannot be empty. Universality necessarily entails both particularity and individuality. Without particularization, there can be no universal unity, and without particulars being individuals, differentiated from one another, they cannot maintain the plurality on which their distinction from the universal depends. The universal is therefore self-differentiating, and conceptual content need not be drawn from intuitions lying beyond thought.[1]

Nevertheless, the autonomous thinking that language makes possible is subject to different stages of psychological realization. This is due to how intelligence can think not only about conceptual content but also about the imagery supplied by intuition and imagination. In all its operations, thinking is a having of thoughts, such that thinking is always occupied with itself, as both the subject and object of its activity.[2] Whatever those thoughts may be, they cannot be formed and apprehended without being verbalized in either inner or overt speech. The meaning of thought may be completely imageless, but that meaning cannot be verbalized unless imagination keeps in mind the configuration of the words that express thinking. Consequently, thinking always involves imagination to supply at least the signs of the words with which thoughts are formulated. Moreover, the thoughts that thinking conceives may not be pure, deriving their entire content from logical determination. Thought can equally conceive concepts, judgments, and inferences that are empirical, deriving their content from general representations supplied by imagination and intuition. In the latter case, thinking will conceive thoughts whose content is dependent upon and in relation to external sources. The thoughts so conceived do not lose their form as thoughts, but their content is alien to that form. The psychology of thinking therefore involves distinct types of thought characterized by different relations between the form and content of thinking. Each of these types of thought involves the logical determinations of concept, judgment, and syllogism, but each realizes these logical determinations in particular psychological activities distinguished by the psychological factors they employ. In all cases, language is necessarily at work, without having to undergo any grammatical or lexical modification. Consequently, the different stages in the psychology of thinking are not stages in linguistic development. Although thought always involves language, the development of thinking proper is distinct from the phylogenetic genesis of language, the historical modifications of language, and the ontogenetic maturation of discursive individuals.

The different relations between the form and content of thinking represent different stages in the autonomy of thought. Whenever thinking has a content different from thought, it occupies itself with something extraneous, something given independently of its own activity. In that case, thinking has a formal character, reflecting how its activity does not generate the content of what it thinks. Instead, it draws that content from some other source. The formality of a thinking whose form and content fall apart thus involves heteronomy, in that thinking takes on a content it finds given instead of thinking something immanent to thought itself. The more thinking determines the content of what is thought, the more heteronomy is overcome, and the more conceptual autonomy is achieved.

Many have doubted whether thought can ever liberate itself from heteronomous content. Ever since Kant declared thought to be empty without intuition,[3] it has been widely presumed that thinking is inherently finite and externally reflective, in that thinking can think only about contents that it must find outside conceptual determination. Such empty finite thinking is governed by the principle of formal self-identity, the principle of noncontradiction, according to which each concept is what it is and not what it is not. On this basis, thoughts have a given content that is fixed and rigid, barring concepts from having any self-determined, immanent development. Under this reign of heteronomy, a thinking that relies on thought alone can never arrive at new content or relate fundamentally different concepts to one another. Such formal, empty thought can only be analytic, analyzing what is contained within given contents and confirming whether they are internally consistent in accord with the principle of noncontradiction. How thought can then unconditionally affirm the nonanalytic truth that thinking is finite, analytic, and governed by a formal logic is a mystery left unexplained and ignored by these eviscerators of reason.

If thought were so empty and immobile, then, alas, one might be compelled to follow Hannah Arendt and locate the imageless content of thought in metaphor, which supplies the empty abstraction of concepts with a content drawn from intuition without reducing conceptual content to imagery.[4] Thanks to the associating of imagination, the analogy of metaphor permits thinking to obtain content without being immediately identical to the intuitive material with which it is metaphorically related. Although metaphor may both relate and distinguish its terms of comparison, it still leaves thought dependent on a content it has not produced, robbing thinking of any autonomy. It should be no surprise that Arendt, following Kant, deprives thinking of any ability to

know the truth[5] while failing to recognize that this limitation undercuts the authority of her own theory about the life of the mind, thinking included.

Although thinking can operate metaphorically, employing analogies relating concepts to figurative representation, propositional discourse gives intelligence the means to determine word meaning through other word meanings, whereby conceptualization, judgment, syllogism, and systematic argument specify particularity and individuality through universality, allowing concepts to be determined by one another. Thinking does always involve imagination to represent the verbal configuration of thought, but this is semiotic, not metaphorical imagining. It is precisely because words are signs, whose meanings have no intrinsic connection to their figurative content, that thinkers can verbalize imageless thoughts without need of metaphor. Admittedly the psychology of thinking does involve forms of heteronomous thinking, where thought orders figurative contents given independently of logical determination, allowing metaphor to play some role. These heteronomous forms, however, are not exhaustive of thought. The psychology of thinking will demonstrate this by leading through the stages of conceptualization where intelligence passes from understanding to reason, at which point the form and content of thinking cease to be opposed and thought becomes fully autonomous.

These stages are different from the logical succession whereby the concept gives rise to judgment, the forms of judgment develop into one another, and syllogism emerges from normative judgment and unfolds its own forms.[6] The psychological stages of thinking do incorporate these forms of thought but bring them into play in conjunction with mental content and mental activities supplied by intuition and imagination. In the *Republic*, Plato pictured this psychological development of thinking in the Divided Line,[7] where the heteronomous thought of calculative, demonstrative reasoning, which proceeds from external presuppositions and relies upon intuitive contents and constructions, leads to the pure thinking of "dialectics," which moves beyond all assumption from one concept to another. Plato's Divided Line schematized forms of mental activity and the types of objects they address in an order that suggested a genetic constitution, where the higher forms, culminating in the pure thinking of dialectic, rest upon those below. This genetic constitution also allowed for the retention of the "lower" mental activities alongside or within the operation of those to which these lead. Do the different psychological forms of thinking have a similar relationship? First of all,

do these forms constitute stages that have a necessary order of constitution, where the pure thinking of reason cannot be engaged in without the prior engagement of the heteronomous thought of understanding? Second, whether necessary or not, can these psychological forms of thinking operate side by side, as simultaneous or alternating intellectual activities?

Before exploring these issues, it should not be forgotten that in thinking through and living this development, mind does not cease to feel, sense, imagine, or desire. Thinking does not require, let alone permit, the individual to jettison the body or the preconscious psyche and consciousness. The embodied psyche and consciousness remain at hand precisely because these are the general enabling mental conditions of intelligence that, as such, leave undetermined what mind thinks, as well as which of mind's thoughts are true. Because thought depends upon language and language cannot be nor be used by individuals who have not inhabited an actual linguistic community, the psychology of thinking is a theory of the embodied reality of living individuals who find themselves in an historical world that cannot curtail their autonomy of thought. Socrates may welcome death as if this liberation from the body could empower his thought,[8] but any philosophers who think their reason can be unembodied better wonder how they can conceive and communicate that thought with any authority while still encumbered by their living mind.

5.2 The logical versus psychological thinking of thinking

The psychology of thought, like logic, is a thinking of thinking. Both investigations seem to unite their method and content, their subject and object, in contrast to all nonpsychological, nonlogical disciplines, where thinking examines something other than itself. In those latter disciplines, the investigation must presuppose the method it employs since what is examined does not include the thinking that scrutinizes its topic. Such nonlogical, nonpsychological investigations must further take for granted the boundaries of their subject matter, since unless these borders are assumed, they have nothing to investigate in distinction from their own thinking.

In the case of logic, the thinking of thinking makes an absolute beginning since at the start of logical investigation, what valid thinking is has still to be determined. At the outset of logic, neither its method nor its topic is yet at hand. Logic can begin with no presuppositions about

knowing or the object of knowing, for in either case it would beg the question. Consequently, logic goes astray if it engages in any psychological explanations, bringing in the real activities of mind. No more than any other factors can they be introduced, for at the start of logic, no content or procedure has any validated authority. Only at the conclusion of logical investigation has valid thinking been established, and this can be secured only through the accomplished constitution of valid thinking that thinks itself.[9] Although logic is normative, it cannot fail to practice what it preaches, since only then can it be the valid thinking of valid thinking.[10]

Unlike logic, philosophical psychology's thinking of thinking does not make an absolute beginning. The psychology of thinking presupposes not only logic but the philosophy of nature and those parts of the philosophy of mind that account for the psyche, consciousness, and the development of intelligence from intuition through the constitution of propositional discourse. Mind's thinking can neither be conceived nor actualized without all these factors already determined, for no individuals can think unless they inhabit a universe in which their own animal bodies have evolved with the psychological dimensions that enable them to participate in a linguistic community in which they can formulate and communicate their thoughts. For just this reason, the psychology of thinking cannot possibly play the Archimedean role of being an epistemological principle, determining what can be thought and which thoughts are valid. Any attempt to give the psychological process of thought this foundational privilege is plagued by "psychologism," the incoherence of being determined by objective factors of nature and mind while being ascribed the juridical role of determining what can be truly thought to be objective.

Nonetheless, the psychology of thinking provides a service that neither logic nor any other discipline can accomplish: by accounting for the mental reality of thought, the psychology of thought can make intelligible how living individuals can truly theorize about themselves. Whereas logic determines the categories of thought, the psychology of thinking determines how real living individuals are able to conceive them as well as nonlogical topics without being juridically conditioned by the enabling psychological conditions of reason. The Socratic imperative, "know thyself," here achieves fulfillment in that the philosophy of mind accounts for how mind can think autonomously. If this could not be done, the philosophy of mind, not to mention every other arena of philosophy, would be a vain enterprise, devoid of possible reality.

5.3 Thinking, intelligence, and the opposition of consciousness

The development from intuition to representation has provided the psychological conditions of linguistic intelligence and, in doing so, has secured the place of thinking within the mental domain of intelligence. This location has been ignored by most modern accounts of thinking, which tend to place thought within consciousness. This reduction of thinking to a conscious awareness reflects two familiar dogmas, whose continued acceptance remains a dire impediment to the philosophy of mind and whose repudiation remains a recurring chore. The first dogma is that consciousness is the one and only domain of mind. The second dogma is that consciousness is discursive, according to which consciousness cannot confront any objectivity unless consciousness conceives categories that confer upon its mental content a necessary, nonsubjective unity. Kant pioneers the construal of consciousness as essentially discursive in his "Deduction of the Categories" in the *Critique of Pure Reason*, precluding any consciousness without thought. Although Kant does not explicitly take into account the linguistic reality of thinking, the dogma that consciousness is discursive has since been upheld by those who substitute language for consciousness as their epistemological foundation. The prime exponent of this move is Wilfrid Sellars, who maintains that the intersubjectivity of language allows mental content to be objective for consciousness. Sellars argues that insofar as consciousness makes knowledge claims, knowledge claims entail judgment, thinking judgment is bound up with language, and language involves interaction among individuals who recognize their common assents to commonly perceived objects, the opposition of consciousness is tied to linguistic practice and the thinking this involves.[11]

As we have seen, the genesis and actuality of discursive intelligence exposes the fundamental incoherence of these dogmas. To begin with, if consciousness could not confront objects without using conceptual discourse, language and thinking would be unable to arise. If consciousness was essentially tied to language and thought, no individual could be conscious before having linguistic intelligence. Not only would dumb animals be bereft of consciousness, but neither children nor the first originators of language could be conscious or self-conscious before they began to converse. If this were so, no prelinguistic individuals could ever be conscious of one another, of their respective expressions, or of any objects that could be perceived in common, all of which must factor in the recognition process by which language can begin to be

acquired. Unless consciousness and self-consciousness can be prediscursive, language could never be established or learned, nor could thinking be undertaken.

Further, unless prediscursive individuals are not only conscious but have the subject-object awareness of intelligence, they could never apprehend both their mental contents and the objects to which they refer, as intuition and representation make possible before thinking occurs. Because consciousness is aware only of the object it confronts and never simultaneously of the mental act by which it has that awareness, it cannot concurrently apprehend the correlation of sign and signified necessary for language and thought. Only intelligence can do both, because intelligence is the form of mind that apprehends its mental content to be both subjective and objective.

The reduction of mind to consciousness has another fatal consequence that undermines any prospect for philosophical psychology. If consciousness exhausts mental activity and thinking is trapped in the oppositional polarity of conscious awareness, reason can never escape the impasse that results when consciousness counts as the ultimate framework of knowing. Insofar as conscious awareness treats its mental content as an object confronting it, consciousness can never certify that what it takes its object to be corresponds to that object as it is given independently of consciousness. To validate correspondence, consciousness must compare its own mental content with what it represents the object to be in itself. In doing so, however, consciousness cannot avoid discovering that what figures in that comparison as the standard for the truth of its own representation, the object in itself, is nothing but that object as it appears for consciousness. Accordingly, if the confrontational opposition of consciousness applied to all cognition, including that of reason, thinking would never be able to validate the truth of its thought.

This problem is compounded for both logic and psychology insofar as the opposition of consciousness precludes the reflexivity that allows logic to think thinking and the philosophy of mind to conceive the real mental process it employs in conceiving the psychology of thinking. Although consciousness can confront a psychological phenomenon as its object, whenever it does so, it cannot be simultaneously aware of the mental activity in which it thereby engages. Whenever consciousness is aware of some object, its awareness is never apprehended along with that same apprehension. Even when consciousness reflects upon that awareness, making it its object, the reflection it now makes is not yet what it is aware of unless it makes a further reflection, whose act is

equally not the object of the reflection it performs. Although Husserl accepted the opposition of consciousness, that is, intentionality, as the fundamental "presuppositionless" principle of knowledge, he had the scruples to admit that on this assumption, philosophy can never achieve self-transparent responsibility for its claims.[12] It will be impossible to overcome the difference of subject and object and attain the self-thinking thought of logic as well as to account for the real thinking one uses in conceiving the psychology of thought. So long as mind is reduced to consciousness, every attempt to know an act of knowing will depend upon a further reflection that remains beyond the consciousness under consideration. The comprehension of mind will then always be an unfinished task, leaving reason unable to achieve the full self-knowledge supplanting dogmatic appeal to the given.

When instead the two dogmas are cast aside and consciousness is relegated to its proper place alongside the psyche and intelligence, the psychology of thinking can free reason from confinement to the opposition of consciousness. By considering prediscursive consciousness, with which language acquisition can be made intelligible, and on the other hand a linguistic intelligence not limited by the subject-object confrontation of conscious awareness, the philosophy of mind can now account for the mental reality of thought without subverting the authority of the thinking with which it provides that account.

5.4 Reason as subject and object of thinking intelligence

In thinking, as well as in intuition and representation, intelligence combines the contrasting self-relations of the psyche and consciousness, thereby presupposing and incorporating both. Just as the psyche feels its own feelings, so intelligence relates to its intuitions, representations, and thoughts as its own products. At the same time, however, intelligence departs from the self-communing of the psyche by treating its intuitions, representations, and thoughts as determinations of something objective. Conversely, although intelligence distinguishes its mental contents from itself, giving them an intentionality or reference like that of consciousness, intelligence relates to its objective intuitions, representations, and thoughts as equally its own subjective determination. In this concurrent way, intelligence relates to its thoughts, as well as its intuitions and representations, as both subjective and objective, unlike the psyche, which communes with its own mental content without distinguishing subject from object, and unlike consciousness, which repels its mental content as something confronting it.

These constitutive features of intelligence vindicate Hegel's dual claim that intelligence is a unity of psyche and consciousness, as well as an awareness of reason.[13] Reason generally comprises the unity of subjectivity and objectivity, involving a cognition that knows itself to be objective. Whether intuiting, representing, or thinking, intelligence occupies itself with contents of mind that it knows to be both subjective and objective. As such, intelligence has reason as its underlying subject matter, even if the form of the identity of subjectivity and objectivity does not have conceptual character until intuition and representation give way to thinking. Intelligence's certainty of its own subjective-objective character becomes conceptual when its mental content acquires the universality that needs thought and language to be adequately grasped. Reason's unity of subject and object, of which intelligence is aware, then becomes a unity of concept and objectivity. Mind can now tackle more than the correct match between subjective mental contents and some given phenomena. By having thoughts, intelligence can now apprehend the theoretical truth consisting in the correspondence of an objective conception with a reality that is conceptually determinate.

These prospects ratify why thought and language must involve intelligence rather than just consciousness and/or the psyche. Like consciousness, thinking is about something. Thought has meaning, and the thinking of thoughts is intentional. Nonetheless, thinking operates fundamentally differently from prediscursive conscious sense-certainty, perception, and understanding, where conscious mind needs no verbal formulations to be certain of the immediate being of the sensible manifold, of things and their properties, and of the dynamical interaction of objects. Although thinking may address what is sensed, perceived, and understood prediscursively, thought does so by thinking about conceptual determinations. These are concepts and thought by intelligence as such, but they no less comprise universal determinations of objects. By contrast, consciousness senses, perceives, and understands its objects without apprehending how their determinations are its own. Unlike consciousness, intelligence theorizes in thinking, for to theorize, mind must apprehend the concepts with which it grasps the universal nature of objectivity while recognizing that these concepts are mind's own thoughts.[14]

Although thinking may emerge from reflections upon experience, the objectivity addressed by thought need not be exclusively physical. The subject matter of thinking can just as well include mathematics, logical categories, the divine, and norms of ethics and beauty. In conceiving these subjects, thinking does not forfeit its objectivity, for intelligence

can still distinguish between those of its thoughts that grasp the objective nature of these matters and those that subjectively misconstrue it.

The objectivity of thought has its logical basis in how universality and what is determined in and of itself both have a self-determined character.[15] Unlike what is truly objective, phenomena are relative to something else that is their underlying ground. The same is true of heteronomous understanding, whose apprehension is dependent upon given content. Although conditioned apprehension may address the "correctness" of its representations by seeking to confirm their conformity to appearances, this match remains within the phenomenal domain of what is relative and cannot provide true knowledge. Only autonomous thinking can grasp what is nonrelative and determined in and of itself. Whereas oppositional appearance may confront consciousness, objectivity proper is an object of thinking intelligence.[16]

5.5 The thinking self

Whatever content thinking may have, thought gains its own objectivity in verbal expression, either inner or overt. In thinking, intelligence knows that this expression is its own thought and thereby knows itself to be the thinking self that pervades all its verbalizations. The words through which intelligence thinks are the particularizations of its thinking being. To the extent that these particular verbal thoughts no longer draw their meaning from intuition, they are products of discourse, contained within the universality of thinking intelligence as the differentiation by which one affirms one's own identity as a thinker.

Intelligence as thinker cannot be the disembodied solitary meditator of Cartesian solipsism. To think is to verbalize, and to verbalize requires being an animal with an evolved "language faculty" that has interacted with other similarly endowed animals with whom it has developed or acquired language. The thinker necessarily has an embodied psyche, consciousness, self-consciousness, intuition, imagination, and the habits allowing him or her to focus on having thoughts while all other physiological and mental processes proceed sufficiently in the background. Only with all these natural and psychological factors in play can intelligence engage in conceptualization, where the subjective activity of thinking produces thoughts as its object, knowing these to be both in mind and with a meaning of their own, accessible to others. By thinking, intelligence can engage in theoretical cognition, the cognition that knows objects through concepts. The objects of theory are inherently conceivable, uniting the subjectivity of concepts with the

objectivity of their independent being. This allows thinking to be objective and intelligence to know itself as uniting subjectivity and objectivity in its exercise of true thought.

Every form of thinking, from understanding to reason, exhibits this theoretical certainty to some degree. To see how this is so, it is important to keep in view how subjectivity and objectivity are united in thought in contrast to how that unity is present in intuition and representation.[17]

In intuition, subjectivity and objectivity are immediately united insofar as the given mental content provided by sensation is directly apprehended to be just as much a mental as an objective determination. Intuition does this without any mediating transformation of its content. Just as the psyche's feeling became sensation by being repelled by consciousness as the unaltered manifold of an opposing appearance, so sensation becomes intuition by being treated by intelligence as both subjective and objective without any modification of its given manifold.

Representation departs from this immediate intuitive unity by opposing the mental to the objective. Imagination does this by recollecting intuitions, thereby producing images that it knows to be fashioned by its own activity in distinction to the objects whose intuitions it represents. Imagining intelligence is always aware of its representations being both mental products of its image making and about something intuitable. Otherwise, representation reverts to intuition. Imagination thereby knows that its representation has distinctly subjective features which render its recollected intuition something different from the object to which it originally refers. The representation is still about something objective and thereby unites subject and object. Representation does so, however, in a form, imagery, that intelligence knows to be merely subjective.[18] In imagining, intelligence connects its intuitions and representations in a mental time and space of its own. Thereupon, in mechanical memorization, semiotic imagination suspends the reference of words to their independently given meanings, leaving them wholly contained within the mental field of verbal memory. Although imagination thereby frees intelligence of dependence upon given intuition, it has yet to generate a new objective meaning of its own.

In thinking, intelligence provides what imagination cannot: imageless content that is no less objective. To the extent that thoughts are theoretical, they unite subjectivity and objectivity in a psychological activity that is just as much objective as subjective. Thinking can unite subjectivity and objectivity because the subjectivity it comprises and the objectivity it is about are both conceptual. In thinking, the embodied individual employs language to perform an activity of conceptual

determination, discursively formulating the object of its thought. This subjective reality of thinking has as its objective counterpart a conceptually determined objectivity, objects as manifest in thought. In thinking objects of thought, intelligence unites its concepts with the conceivable objectivity they comprehend. By conceiving what is objective, one has thoughts that comprise one's subjective reality as thinker as well as the conceptual being of one's object. One's thinking, which unites subjectivity and objectivity in its theorizing, is itself both subjective and objective. Intelligence cannot fail to be aware of this, for thinking has a psychological reality consisting in the verbalization of one's thought where one is equally aware of formulating these verbal expressions, of thinking one's thoughts.

5.6 The psychology of concept formation

Although the logical autonomy of conceptual determination underlies the psychological autonomy of thinking, the latter does not parallel the former. Logic, as a thinking of thinking, can assert no determinate claims about knowing or its object without begging the question. Since valid thought is logic's topic as well as its method, no determinate procedure or subject matter can be at hand at the outset of logical investigation. Instead of being relative to given assumptions of form or content, logic must make an absolute beginning, presupposing nothing. Logic's self-thinking thought can arise only as an autonomous development from indeterminacy, depending on no external operations or introductions of material.

By contrast, the psychological reality of thinking begins on the very concrete threshold of propositional discourse, where the individual member of a linguistic community has a particular grammar and lexicon with which to begin formulating concepts from the general representations at hand. Initially, thought will consist in thinking through that given content, producing concepts out of imagery and names.[19] This will involve transformations of verbal meanings, where words that originally signified general representations begin to take on a logical, conceptual significance. The general development is the same whether this occurs in the independent efforts of the founders of a linguistic community or through the interaction of a new language user with the conceptually proficient adults of that user's community. Verbal meanings that applied to pictured groups of individuals come to designate abstract attributes or classes or genera and species that contain those individuals within their logically defined universality.

This transformation is accomplished through propositions in which judgments begin to take shape. Judgments come into play because these allow individuals and particulars to be determined through universals. Without judgments, universals can be obtained only through abstraction from intuited and represented individuals and particulars, resulting in empirical generalizations, conditioned by figurative content.[20] Through judgment, individuals and particulars are themselves determined by universals in propositions whose terms are words rather than images. The question of objective truth now arises as an object of thought, for discursive judgment affirms that an individual, as verbally designated, *is* determined conceptually.[21] Thinking this connection involves more than just confirming the fit of a representation with a given phenomenon. It concerns properly conceiving the universal nature of what is determined in and of itself. Since the concepts obtained are themselves individual and particular, thinking can further determine them in terms of other concepts. Thereby a web of discursive judgments begins to form in which concepts become logically defined.[22]

This web involves verbalized syllogisms once the connection of universal and individual gets mediated in inner or outer discourse by judgments connecting the universal with the particular and the particular with the individual. Individuals thereby infer conceptual determinations in series of thoughts, whose successive verbalization responds to the need to validate the conceptual connection immediately asserted by a judgment in the "is" of its copula. In all these cases, the meaning of concepts, as well as of the judgments in which they figure, becomes refined thanks to the verbal memory and attention of individuals, which allows them to keep in mind the logical connections of their thinking.[23]

The same ability to question the validity of any judgment provides for the capacity to question the premises from which any syllogism proceeds. This may lead to ever more thoughts about what inferences could demonstrate those premises, as well as those of the inferences called upon to demonstrate the former. An endless network of verbalized syllogisms looms, leaving thought seemingly caught in a holism without limit, where the truth of conceptual meaning always remains in abeyance, awaiting a new demonstration of the latest premises. At some point, however, thinkers may question the very viability of judgment and inference as satisfactory resources for cognition and push their thinking to the threshold of systematic philosophical investigation, which calls into question all juridical presuppositions. Propositional discourse provides all that is necessary to do so, and it is up to thinkers

to take the final step from generalizing and demonstrative understanding to reason proper. Philosophical psychology cannot dictate that this move be made, for it is a free undertaking of intelligence. What the philosophy of mind can do is conceive how the psychological reality of reason is distinguished from that of understanding.

5.7 The psychology of understanding

The forms of thinking are psychologically differentiated by their relation of form and content and the degree to which they realize rational autonomy. Thinking arises psychologically with the emergence of propositional discourse and the figurative meanings that words have before thinking transforms them into logically determined concepts. Accordingly, thought first consists in the formal activity of an understanding that works up this given linguistic material into a conceptual form, which discursive intelligence can then think about and further determine through its thinking activity. The type of thinking comprising reason will emerge once discursive intelligence overcomes the figurative residue of understanding and freely determines the content of its thought.

The psychological emergence of autonomous reason refutes Kant's dogma that concepts are empty without intuition, a dogma that underlies how he distinguishes understanding from reason in the *Critique of Pure Reason*. Understanding is there characterized as a faculty of concepts and judgment that depends upon intuitive content and exhibits this dependency in restricting its thought to conceiving what is itself conditioned and relative.[24] Reason, by contrast, is characterized as a faculty of syllogizing, which seeks to conceive the unconditioned principle lying at the apex of inference but cannot avoid falling into insoluble conceptual conflicts in seeking to grasp its prey.[25] As a consequence, reason cannot provide any knowledge, whereas understanding, supplemented by intuition, can "know" appearances. Kant does not take linguistic intelligence into account in conceiving understanding and reason, which leaves his descriptions psychologically inadequate. Kant cannot accommodate the discursive reality of understanding and reason for two reasons. First, by treating understanding and reason as transcendental conditions of knowing,[26] Kant must conceive knowable objectivity as a conditioned domain determined by the structure of knowing. Since this same structure determines all objects that can appear to knowing, those objects are subject to an external necessitation that applies to them irrespective of what they are. Knowable objectivity is thus a conditioned

nature, governed by a material law of efficient causality that applies to all its objects with indifference to their specific character. Accordingly, nothing living or autonomous can be encountered in knowable reality. This precludes individuals from consciously interacting with one another as linguistic agents, which not only should bar Kant from making any knowledge claims about consciousness *in general* but render illegitimate any affirmations by him about self-consciousness, thinking, or moral conduct.

Nonetheless, Kant's characterization of understanding as a "faculty" of conditioned thought has some psychological applicability, once it is liberated from relegation to the unknowable noumenal realm and reborn within the psychological reality of an embodied intelligent individual who participates in the propositional discourse of a linguistic community. Understanding then not only formulates concepts and makes judgments but draws inferences, all with respect to given imagery and names supplied by imagination. Reason can also obtain psychological rehabilitation as a form of thinking that conceives what is unconditioned by overcoming the heteronomy of understanding and engaging in systematic philosophical conceptualization. This involves not syllogizing but thinking through the immanent development of thought, where the content of thinking is generated by self-determining concepts rather than through demonstrative deductions from given premises. What allows reason to overcome the formality of understanding is that its thinking is not solely analytic, governed by the formal identity of the principle of noncontradiction. Rather, reason uses discourse to think how concepts are, not just what they are and not what they are not, but universals that differentiate themselves, making possible synthetic a priori thought. Although judgment and inference cannot individually provide such immanent development, when they are used in combinations that contrast and identify nonidentical determinations, discourse can develop arguments that independently generate new conceptual content.

5.7.1 Conceptualizing given representations

Thinking begins its career by reflecting upon the general representations to which words initially refer and verbally formulating what universals it finds in that given content. To the extent that general representations retain the individuality of imagery, the concepts that reflective understanding uncovers in them have a formality that leaves out of account what individuates these representations. In this respect, the thinking of understanding consists in abstracting.[27]

Three types of universality come into play: abstract universality, class, and genus. Understanding first thinks abstract universals that pick out common features of individuals, while leaving otherwise undetermined the other aspects that distinguish those individuals from one another. This involves an engagement in propositional discourse, whether inner or overt, stating the relation of abstraction by which the universal in question is defined. Once such generalities are verbalized, understanding confronts a second type of universal that it can now articulate: class. Class arises from the thinking of abstract universals, since whatever individuals have a common generality can be thought to belong to the class that has that shared identity. All understanding must do is think that grouping, verbalizing what it means to belong to that collection of individuals. Once more, the universal leaves undetermined what distinguishes the particulars to which it refers, for class membership does not itself differentiate its members. Nonetheless, thinking class membership puts the understanding in a position to conceptualize the genus and species being of individuals. When all members of a class are conceived to have something in common, they can be thought to have a shared nature with that feature as a necessary differentiation. That thought of genus and species being is once more psychologically constituted in the propositional formulation of its identity. By having necessary differentia, genus and species involve a more concrete universality than abstractions and classes, which leave undetermined everything distinguishing the individuals they involve. Nonetheless, the individuation of species members still remains outside the concept of genus and species, for when the lowest species is reached, what individuates its members is not specified by their species being. So long as thinking remains a conceptual understanding that conceives what is universal in representations given to it, thought remains burdened by this formality of being unable to lay hold of what is individual.

The same formalism applies to whatever laws and general forces understanding may conceive in reflecting upon its representations. Due to their insensible universal character, laws and forces can be formulated and apprehended only in propositional discourse. It allows laws to be articulated as the common pattern persisting in the flux of appearance, just as it enables abstract forces to be conceived to have their expression in the lawful alterations that are observed. These verbally specifiable laws and forces, however, still leave undetermined everything individual that distinguishes the objects to which they apply. Because that individuality is something given apart from the thinking that seeks to comprehend it, the thought determinations of understanding relate to their object

in an external manner, even though they are to constitute its universal essence. Consequently, the object of thought is conditioned by those universals rather than having the form of thought immanent in its own given content.[28]

Due to this abiding formality, a subjective arbitrariness taints whatever certainty understanding may have that its conceptions are objectively valid. The universal content that is abstracted from given representations can always be redefined to cover a greater or lesser extension, just as the boundaries of a class can always be altered as the identity of shared membership gets revised. The same corrigibility applies to the taxonomy of genus and species, for what differentia are truly necessary cannot be firmly established by reflecting upon the concrete contents of given representations. What differentia may apply to the current members of a genus or species may turn out to be absent from other individuals who appear to warrant inclusion. And the validity of laws and the forces they govern are always subject to revision when understanding confronts representations that cannot be accommodated by them.

5.7.2 Discursive judgment

The categorizations that understanding makes in thinking over what intelligence represents provide the material for making judgments that further determine objects of thought. Thinking judges not by connecting representations but by formulating propositions to determine verbal meanings through one another. Although judgment logically determines the individual or particular by the universal in an immediate fashion, discursive judging qualifies individuals or particulars that are already sufficiently conceptualized to be designated by words. Since these subjects of discursive judgment are categorized through the reflective thinking of understanding, they have a plurality of specifications that are not all determined by the categories found in them by the understanding. Consequently, when understanding judges its objects of thought, the predications it imposes have an external, subjective character. Although the judgments affirm thought determinations that hold true of the subject in question, the manifold content of the object of judgment allows for other judgments involving different qualifications. This predicament applies to judgments that attribute abstract universals, class membership, and species being to verbally identified subjects, as well as to judgments that apply further predications to subjects that are already characterized as sharing abstract universals, class membership, and species being. In every case, substitutions can always be made, both with regard to the subjects of the judgment as well as to the predicate

that is ascribed. Accordingly, when understanding seeks to validate the judgment it makes, it is impelled to provide reasons for the predication. Although imagery might illustrate what judgment claims, only verbal formulation can properly identify the logical terms of the judgment and articulate a supporting reason for their connection.

5.7.3 Discursive syllogism

Understanding develops syllogisms in order to provide a mediating rationale for the connections that judgment immediately makes. Just as judgment depends upon prior conceptualization of the factors it combines, so syllogism depends upon prior formulations of judgments that can serve as the constitutive steps of inference. Thinking intelligence can continue to formulate new concepts and make new judgments, but every engagement of understanding will exhibit the structural dependence of judgment on preliminary concept formation and of syllogism upon antecedent judgment. That structural dependence will be present in the engagements of verbal recall that must accompany the thinking of judgments and inferences, without which the train of inferential thought cannot be sustained.

The syllogizing of understanding contains the same formality that afflicts the concept formation and judging that understanding undertakes. This can be no surprise, since understanding infers by thinking through a series of its judgments. Although syllogism logically connects the individual to the universal through its particularity, the universals, particulars, and individuals that figure in the thinking of understanding are not exhaustively determined by their relation to one another. Because the understanding initially forms its concepts through abstraction, the particulars of its universals are individuated by extraneously given content that lies outside those universals' conceptual differentiation. Just as the judgments of the understanding exhibit arbitrariness insofar as their subject can be connected to other predicates and its predicates can be connected to other subjects, so the inferences built of such judgments follow routes that could be supplanted by others. Since a universal applies to individuals who may share multiple particular features and fall under multiple commonalities, what unites universal and individual is a matter of choice, just as what is universal is connected to individuals through some particularity.[29]

Nonetheless, the very form of syllogism presents understanding with the challenge of overcoming the extraneous content of the objects of thought. In syllogism, the universal, particular, and individual are all mediated by one another. Inference ties the universal and individual

together through the particular, as can be articulated in the three successive judgments: "the universal is the particular," "the particular is the individual," and "the universal is the individual." In so doing, inference renders the particular connected to the individual through the universal, since in the two judgments, "the universal is the particular" and "the universal is the individual," the universal ties the particular to the individual. This further renders the universal connected to the particular through the individual, which follows from the judgments "the universal is the individual" and "the particular is the individual."[30] Although all three terms' mediation through one another overcomes in form the immediacy with which syllogism proceeds,[31] so long as understanding makes inferences from independently given premises, its thinking remains bound to heteronomous content. Nonetheless, the mediating activity of inference carries with it the imperative of overcoming the immediacy of its premises, which remains unfulfilled so long as the factors of syllogism retain an externality calling for the mediation inference supplies.

Although Kant imprisons reason within the form of syllogism, inference can never think the unconditioned that Kant properly recognizes to be reason's distinguishing content. To move beyond the heteronomy of understanding to the autonomy of reason, intelligence must overcome the limits of inferential thinking. What Plato pictured in the Divided Line as an ascent from demonstrative thought to dialectic will consummate the psychological development of theoretical intelligence.

5.8 The psychology of reason

To think autonomously, intelligence must no longer foist universal forms of thought upon an independently given content. The heteronomous thinking of understanding formulates concepts, judges, and infers, such that what is thought over is distinct from the conceptual ordering it undergoes. In order for thinking to determine the object of thought without appeal to externally given content, the entire determination of what is thought must emerge in the process of its conceptualization. The discourse in which the subject matter is conceived must formulate it as it is constituted in its own right. For this to be the case, the content must be self-ordering, and the form by which it is thought must be intrinsic to how it is determined. Thinking will then have a form pregnant with content, a form that is no longer relative to givens external to it, a form that is instead unconditioned and self-determining. For its part, the object of reason will no longer be the product of a form-giving

manufacture but something determined in and of itself. Thought will not abstract from some concrete factor it confronts but instead proceed from the most minimal determination of the subject matter and think through the path of its internal constitution, where nothing is thought before its prerequisite constituents and preconditions have been conceived. In this manner the subject matter will be conceived as it constitutes itself in its self-subsistent objectivity, taking on further determinations whose order is rooted in how their content is related to the prior and posterior determinations that together comprise the formation of the object in its own right. Instead of proceeding from given representations to which understanding relates concepts through judgment and inference, intelligence reasons by thinking through the intrinsic process of its subject matter, securing the objectivity of its thought by having it be the self-constitution of its object.

The general path of this concrete thinking is familiar enough. In the domain of logic, reason must begin with indeterminacy and think through how determinacy arises without taking determinacy for granted. On this basis, reason can proceed to address determinacy that is determined by a prior determinacy, thinking through the two-tiered relations of essence, where categories such as essence and appearance, grounded and ungrounded, whole and part, and cause and effect can be constituted. This can then pave the way for thinking through self-determined determinacy, which incorporates determinacy and the determiner of determined determinacy such that what is determined is indistinguishable from what does the determining. Similarly, in addressing nature, reason will begin with what is least determinate and ingredient in all further natural being – namely, space. Time can next follow, followed by matter, whose constitution requires perdurance in both space and time. The mechanics of matter in motion can then be constituted and thought, as prerequisite for the physical workings of electromagnetic processes, from which chemical relations can be thought and constituted. On this basis, reason can then think the emergence of life from the coordination of chemical reactions into a self-renewing system, from which the centralized sensitivity and motility of animal life can be thought and be constituted. With these contents at hand in thought and reality, reason can proceed to develop the reality of mind from its most minimal constituents, thinking through the psyche, then consciousness, and finally intelligence, before addressing the conduct and cultural world that discursive thought makes possible. What makes this conceptualizing a concrete autonomous thinking that has objective truth is how its thinking comprises a self-developing content that involves nothing

more than the self-subsistent nature of its subject matter. The thinking of understanding remains heteronomous because it applies its thought to a given material, producing something determined by an external reflection upon a predetermined, presupposed topic. Reason, by contrast, thinks autonomously, because the universals it conceives particularize themselves, comprising a conceptual self-development that follows out the intrinsic self-constitution of an object as it is determined in and of itself.[32] By unifying its own particularization into an individual, self-determined, concrete universal, the conception of reason can be at one and the same time the true comprehension of its subject matter and the determination of that object's own independent individuality.[33] Unlike understanding, reason is fully free in its relation to its object, for intelligence can know the object as it is determined in and of itself only by thinking concepts that develop themselves.[34]

Although the path of reason is nothing other than the development of philosophical theory, the thinking of reason has a psychological reality that can be distinguished from the conceptual content of philosophical argument. To think autonomously, intelligence must employ discourse, with all its given syntax and vocabulary. Moreover, intelligence must use propositions in which judgments and inference come into play. Even though judgment immediately connects universals with particulars or individuals, without supplying the rationale for the connection it makes, concrete thinking must make predications to articulate the differentiations that its subject matter takes on in its self-constitution. Inference also must come into play even though the universal, particular, and individual are external to one another in the mediating process of syllogism. Intelligence needs inference to articulate how conceptual determinations are mediated by one another, for the concrete thinking of reason follows out how the universal particularizes itself and thereby attains the individuality of being something determined in and through itself. To overcome the givenness of content that enters into every inference, intelligence must rely upon the order in which it presents propositions articulating successive differentiations of the subject matter that is underway being thought and constituted. This is not a matter of inferring the premises of each syllogism from an antecedent inference but rather verbally formulating the sequence of concept determinations that provide the prerequisite constituents of those that follow. This involves articulating contrasting judgments and inferences that ascribe different determinations to the same subject. Only through such opposing propositions can the subject matter develop itself, taking on determinations that it does not yet have, becoming what it is not without ceasing to be

at one with itself. If, instead, intelligence restricted itself to analysis in obedience to the principle of noncontradiction, no new content could emerge.

In these ways, propositional discourse provides sufficient resources for intelligence to think concretely, producing out of its own thought process the independent content of its object. In so doing, intelligence can recognize itself to be a reason that thinks objectively, attaining truth. In reasoning, one knows oneself to be, in one's own autonomous thinking activity, the realization of the correspondence of subject and object, of concept and objectivity.[35] Once more, the psychological resources for doing so do not determine what one thinks, let alone what counts as true. Rather, they enable our intelligence to think autonomously and delineate the intrinsic nature of the subject matter.

In distinguishing reason from understanding, the philosophy of mind arrives at the point of securing its own psychological reality. If this could not be done, if the theory of mind could not establish how intelligence can think autonomously and conceive itself in truth, philosophical psychology would be a vain endeavor.

5.9 The remaining tasks of the philosophy of mind

The psychology of reason comprises the capstone of theoretical intelligence. It does not, however, bring the philosophy of mind to an end. Intelligence as reason may determine objectivity in exercising autonomous thinking, but that activity operates in the theoretical arena of discourse. Although it involves linguistic interaction, it does not encompass the full domain of how intelligent individuals behave as such.

Nonetheless, the emergence of rational intelligence puts mind in a position to employ its understanding and reason to act and transform the world in which it lives. The philosophy of mind must thus proceed to conceive the psychology of intelligent willing, of practical intelligence.

Once this theoretical task has been fulfilled, completing the conception of all aspects of mind, philosophical psychology can consider how the full realization of rational agency is subject to pathological impairment and deformation. *The Intelligent Mind* will therefore be followed by two treatises, one on willing and another on mental pathology.

Notes

Introduction

1. For a detailed development of this point, see Richard Dien Winfield, *The Living Mind: From Psyche to Consciousness* (Lanham, MD: Rowman and Littlefield, 2011), 9–30.
2. For a detailed development of this point, see Winfield, *The Living Mind*, 45–74.
3. As we shall see, this does embrace forms of intelligence involving intuition and representation that are themselves prelinguistic and preconceptual.
4. For a detailed account of this prediscursive self-consciousness, see Winfield, *The Living Mind*, 191–221.
5. Hegel, *Philosophy of Mind*, §437, 178.
6. This is why Hegel can claim that only when true content becomes an object for mind can intelligence become reason in its concrete significance. See *Philosophy of Mind*, §437, 178.
7. G. W. F. Hegel, *Philosophy of Mind*, being *Part Three of the Encyclopaedia of the Philosophical Sciences (1830)*, trans. by William Wallace together with the *Zusätze in Boumanns Text (1845)* trans. by A. V. Miller (Oxford: Oxford University Press, 1971), *Zusatz* to §440, 180; *Zusatz* to §441, 181; §445, 188.
8. As Husserl notes, "we encounter here a paradoxical fundamental property of conscious life, which seems thus to be infected with an infinite regress." See Edmund Husserl, *Cartesian Meditations: An Introduction to Phenomenology*, trans. Dorion Cairns (The Hague: Martinus Nijhoff, 1960), 43. As Husserl himself admits, this paradoxical property applies also to his own (and any transcendental) philosophical investigation, which models all knowing in terms of the opposition of consciousness, intentionality. As he acknowledges, "All transcendental-philosophical theory of knowledge, as 'criticism of knowledge,' leads back ultimately to criticisms of transcendental-phenomenological knowledge ... and owing to the essential reflexive relation of phenomenology to itself, this criticism also demands a criticism" (*Cartesian Meditations*, 152). Husserl quixotically maintains that "in this connexion, however, there exist no endless regresses that are infected with difficulties of any kind (to say nothing of absurdities), despite the evident possibility of reiterable transcendental reflections and criticisms" (*Cartesian Meditations*, 152). Yet how then can phenomenology ever attain the "self-responsibility" that Husserl recognizes to be an essential requirement of true philosophy?
9. This allows Hegel to observe that intelligence makes consciousness its object, just as consciousness has the psyche for its object. See Hegel, *Philosophy of Mind*, §443, 184. Consciousness can be said to have the psyche for its object insofar as consciousness takes the psyche's self-feeling and sets it against its self as an independent objectivity confronting it.

10. Hegel observes that treating these features of mind as powers and faculties or, for that matter, as separate independent "activities" destroys the unity of mind, rendering "their essential correlation…an external incident" (*Philosophy of Mind*, *Zusatz* to §445, 189).
11. As Hegel points out, it would be a mistake to distinguish theoretical from practical intelligence as passive from active (*Philosophy of Mind*, *Zusatz* to §444, 187), for both are actively productive, though containing passive dimensions involving inwardly and externally given determinations. Theoretical intelligence produces mental constructs, ultimately composed of words, which conform to given objectivity, just as practical intelligence produces alterations in objectivity to conform to mind's initially given aims and interests. Accordingly, Descartes is wrong to suggest that will is unlimited whereas theoretical intelligence is limited, for as Hegel further notes, will must contend with the resistance of external material objects, whereas theoretical intelligence builds its theories out of the "unresisting element" of words (*Philosophy of Mind*, *Zusatz* to §444, 187).
12. Accordingly, as Hegel points out, theory and practice are both forms of reason, producing "that which constitutes reason, a unity of subjectivity and objectivity." See *Philosophy of Mind*, *Zusatz* to §443, 186.

1 Theoretical Intelligence as Cognition

1. In this regard, Hegel writes, "Here, this Knowing has as yet no other content but itself, but it is determined as embracing within itself all objectivity, so that the object is not anything externally related to mind or anything mind cannot grasp. Mind or spirit is thus the absolutely universal certainty of itself, free from any opposition whatever. Therefore, it is confident that in the world it will find its own self" (*Philosophy of Mind*, *Zusatz* to §440, 179).
2. It is in this vein that Hegel contrasts the *Erkennen* of intelligence with the *Wissen* of consciousness. See *Philosophy of Mind*, *Zusatz* to §445, 191.
3. For this reason, as Hegel observes, intelligence's knowing of truth does not yet have the form of truth. For this to occur, theorizing's abstract, "formal identity of subjectivity and objectivity" (*Philosophy of Mind*, *Zusatz* to §440, 180) must cease to be merely mental and subjective and obtain an objective form, which is achieved when *practical* reason produces an objective world of conduct that conforms to the concept of freedom.
4. See Hegel, *Philosophy of Mind*, *Zusatz* to §441, 182.
5. Here, as we shall see, mind obtains "absolute certainty of itself, a knowing of reason" in that thought overcomes the last residues of external givenness retained in intuition and representation, presenting a content completely derivative of mind. See Hegel, *Philosophy of Mind*, *Zusatz* to §440, 180.
6. Because such intelligence does not employ concepts, it cannot comprehend itself in its full rationality, in its intrinsic universality as thinking mind. As Hegel puts it, here mind has "not yet grasped its notion, only *is* a rational Knowing, but does not yet *know* itself as such" (*Philosophy of Mind*, *Zusatz* to §441, 182).
7. Aristotle makes this clear in book I of his *Metaphysics* (980a30), describing how learning becomes possible once a mind not only senses but remembers,

which falls within the ability of many animals that never become capable of language and thought.

8. Hegel describes this distinguishing activity of intelligence ("free mind" or "spirit") as realizing the principle "to make the merely given element in consciousness into something mental and conversely to make what is mental into an objectivity" (*Philosophy of Mind*, *Zusatz* to §440, 180).
9. As Hegel writes, "Whereas for" consciousness "the progressive determination of the 'I' assumes the appearance of an alteration of the object independently of the activity of the 'I,' so that at the level of consciousness the logical consideration of this alteration fell only in us: for the free mind, the self-developing and altering determinations of the object are explicitly the product of free mind itself, and the subjectifying of objectivity and the objectifying of subjectivity are its own work" (*Philosophy of Mind*, *Zusatz* to §441, 182).
10. Hegel points this out in *Philosophy of Mind*, *Zusatz* to §445, 190.
11. Since this restriction precludes the possibility of learning, such animals will have to have elaborate instinctual behaviors to fulfill their life functions.
12. Hegel contrasts the object of thought as "no less subjective and objective" with the object of representation, which is "an inwardized material reflected into itself," and that of intuition, which is "an immediately *single* object". See *Philosophy of Mind*, *Zusatz* to §445, 192. Although theoretical intelligence knows each of these types of mental contents to be both subjective and objective, this is not true of their distinctive objects until thinking grasps the conceptual nature of things, which, unlike the single object of intuition and the reflected image of representation, is just as much a thoroughgoing product of mind as something in itself.
13. See Hegel, *Philosophy of Mind*, *Zusatz* to §445, 192, where he refers to this factor as the "*Sache*."
14. See Hegel, *Philosophy of Mind*, *Zusatz* to §440, 182.

2 Intelligence as Intuition

1. Hegel is one of the only philosophers who clearly distinguish these three different ways in which feeling figures in the life of the mind. For a concise summary of his account of how feeling, sensation, and intuition are distinguished and related, see *Philosophy of Mind*, *Zusatz* to §446, 192.
2. Hegel, *Philosophy of Mind*, *Zusatz* to §448, 197.
3. As Hegel observes, intelligence here takes on the form of feeling and "the characteristic form of feeling is that though it is a mode of some 'affection,' this mode is simple" (*Philosophy of Mind*, §447, 193).
4. Intuition, as feeling, has the form of "casual particularity" (Hegel, *Philosophy of Mind*, §447, 193), and any appeal to our "shared intuitions" is therefore suspect, not just as an article of justification but as a reportage of objective fact.
5. Hegel suggests that intuition differs in content from the manifold of sensation in that consciousness, "in the unmediated, quite abstract certainty of itself, relates itself to the *immediate* individuality of the object, an individuality sundered into a multiplicity of aspects; whereas intuition is consciousness *filled* with the certainty of Reason, whose object is *rationally* determined

and consequently not an individual torn asunder into its various aspects but a totality, a unified fullness of determinations" (*Philosophy of Mind*, *Zusatz* to §449, 200). When Kant distinguishes intuitions from concepts, he also emphasizes how intuition comprises a totality, exclusively containing all its particularities (Immanuel Kant, *Critique of Pure Reason*, trans. Paul Guyer and Allen W. Wood (New York: Cambridge University Press, 2000), 162, A32/B47, 175 A24–5/B39). As Kant observes, the totality of intuition enables space and time to contain all particular places and times in their entirety, unlike concepts that do not contain all aspects of their particulars. It is still not evident that the immediacy of intuition permits its content to be distinguishable from that of feeling or sensation. The feelings of the psyche are mental modifications of the embodied mind, just as sensations are determinations of an objectivity that must have its own independent unity in order to confront consciousness. In these respects, feeling and sensation have a totality of their own. Hegel does admit that "mindless intuition is merely sensuous consciousness which remains external to the object," distinguishing this immediate form of intuition from "mindful, true intuition," which "apprehends the genuine substance of the object" and is identified with philosophical reason (*Philosophy of Mind*, *Zusatz* to §449, 199).

6. As Hegel observes, if a person appeals to intuitive feeling, "the only thing to do is to let him alone because by his behavior he refuses to have any lot or part in common rationality, and shuts himself up in his own isolated subjectivity – his private and particular self" (*Philosophy of Mind*, §447, 194). Although intuition possesses the subject-object identity of rationality, it does so in the form of feeling, whose subjective immediacy does not conform to that identity.
7. "Seizing the *unexplicated* substance still wrapped up in the inessentials of the external and contingent … intuition … is only the *beginning* of cognition and it is to this its status that Aristotle's saying refers, that all knowledge starts from wonder. For since subjective Reason, as intuition, has the certainty, though only the indeterminate certainty, of finding itself again in the object, which to begin with is burdened with an irrational form, the object inspires it with wonder and awe" (Hegel, *Philosophy of Mind*, *Zusatz* to §449, 200).
8. John Locke, *An Essay concerning Human Understanding*, ed. Peter H. Nidditch (Oxford: Oxford University Press, 1975), book IV, ch. I, 525–6.
9. Locke, *Human Understanding*, book IV, ch. II, 533–4.
10. As Stanley Rosen observes, "How could we *identify* the content of a silent intuition except by submitting it to analysis?" See Stanley Rosen, *G. W. F. Hegel: An Introduction to the Science of Wisdom* (New Haven, CT: Yale University Press, 1974), 90.
11. "… *resemblance, contrariety, degrees in quality* … are discoverable at first sight, and fall more properly under the province of intuition than demonstration," writes David Hume in *A Treatise of Human Nature*, ed. L. A. Selby-Bigge (Oxford: Oxford University Press, 1965), 70.
12. Kant, *Critique of Pure Reason*, 155, A19/B33.
13. Kant invokes this totality to support his view that time and space are pure intuitions rather than pure concepts. See *Critique of Pure Reason*, 162, A32/B47, 175 A24–5/B39.

14. This is why traditional characterizations of the feminine mind as essentially intuitive amount to an ascription of a retarded intelligence.
15. William James differentiates the varieties of attention in a threefold way: by object (sensorial attention addressing "objects of sense," intellectual attention addressing "ideal or represented objects"), by immediacy (immediate attention focusing on its topic or stimulus "without relation to anything else," derived attention owing "its interest to association with some other immediately interesting thing"), and by manner (involuntary attention being "passive, reflex, ... effortless," voluntary attention being "active"). This differentiation implicitly restricts attention to consciousness and intelligence, neglecting the psyche, while failing to distinguish how sensuous things are focused upon by conscious attention and by intuitive attention. See William James, *Psychology: Briefer Course*, in William James, *Writings 1878–1899* (Cambridge, MA: Library of America, 1984), 213.
16. "Only by this dual activity of removing and restoring the unity between myself and the object do I come to apprehend the content of sensation. This takes place, to begin with, in attention. Without this, no apprehension of the object is possible" (Hegel, *Philosophy of Mind*, *Zusatz* to §448, 195).
17. As Hegel observes, "only by attention does mind become present in the subject matter and obtain *knowledge* of it" (*Philosophy of Mind*, *Zusatz* to §448, 195).
18. Hegel points to attention's "abstract *identical* direction of mind" (*Philosophy of Mind*, §448, 195).
19. Hegel further notes the "nominal autonomy" of that "abstract *identical* direction of mind" (*Philosophy of Mind*, §448, 195).
20. As Hegel puts it, "there takes place in attention a division and a unity of subjectivity and objectivity" (*Philosophy of Mind*, §448, 196).
21. This paves the way for mind to represent its feelings, further undercutting their immediacy and their immediate power on the individual. Thus, as Hegel observes, "Goethe, for instance, particularly in his *Werther*, brought himself relief while subjecting the readers of this romance to the power of feeling" (*Philosophy of Mind*, §448, 197).
22. Hegel relates these factors, arguing that "in the case of the external sensations ... the extent to which they are separable depends on whether the object to which they are related is one that persists or vanishes. It is in accordance with this determination that the five senses range themselves in such a manner that on the one side stand smell and taste, and on the other side, sight and touch, with hearing coming in the middle. Smell is connected with the volatilization or evaporation of the object, taste with its consumption. Thus the object presents itself to these two senses in its complete lack of self-subsistence, only in its material vanishing. Here, therefore, intuition falls into time, and the transposition of what is sensed, from the subject into the object, is not so easy as with the sense of touch which is related mainly to the resistant aspect of the object, and also with the sense proper to intuition, namely, sight, which is concerned with the object as predominantly self-subsistent, as persisting ideally and materially, and which has only an ideal relation to it, senses only its ideal aspect, colour, by means of light, but leaves the material side of the object untouched. Lastly, for hearing, the object is one that subsists materially but vanishes ideally; in sound the ear

perceives the vibration, that is, the merely ideal, not real, negation of the object's self-subsistence. Therefore, in hearing, the separability of sensation is slighter than in sight, but greater than in taste and smell. We cannot help hearing sound because, separating itself from the object, it forces itself on us and we readily connect it with a particular object because the latter preserves its self-subsistence in its vibration" (*Philosophy of Mind*, *Zusatz* to §448, 197). The separability of attention from external sensations, however, depends not just on the relation of these sensations to their object but upon intelligence's own power of directing its focus. Thus, mind can ignore ambient sounds and focus on other intuitions.

23. As Hegel writes, "Apart from such attention there is nothing for the mind. The other factor is to invest the special quality of feeling, as contrasted with this inwardness of mind, with the character of something existent, but as a *negative* or as the abstract otherness of itself. Intelligence thus defines the content of sensation as something that is out of itself, projects it into time and space, which are the forms in which it is intuitive" (*Philosophy of Mind*, §448, 195).
24. "To the view of consciousness the material is only an object of consciousness, a relative other: from mind it receives the rational characteristic of being *its very other*" (Hegel, *Philosophy of Mind*, §448, 195).
25. For this reason, Hegel observes that "Spatial and temporal Singularness, *here* and *now* (terms by which in the *Phenomenology of Mind*…I described the object of sense consciousness) strictly belongs to *intuition*…the object [of sense consciousness] is at first to be viewed only in its correlation to *consciousness*, i.e. a something *external* to it, and not yet as external on its own part, or as being beside and out of itself" (*Philosophy of Mind*, §418, 159).
26. Hegel writes, "The sensed object in becoming external to the inwardness of mind receives the form of self-externality, since the mental or the rational constitutes the object's own nature.…Sensations are therefore made spatial and temporal by intuition" (*Philosophy of Mind*, §448, 198).
27. The move from intuitive attention to the intuition of space and time is logically similar to the move from the totality of logical determinacy to the minimal reality of nonlogical, natural determinacy, a move Hegel schematically traces at the end of his *Science of Logic*. In both cases, the running through of determinacies by an ordering at one with them renders the content *related to* what is identical to itself, producing self-externality.
28. See "A. The Constraints on Human Geometric Imaging," in Eva Brann's *The World of Imagination: Sum and Substance* (Savage, MD: Rowman and Littlefield, 1991), 603–18, for a detailed exploration of all these points.
29. This requirement applies as well to imaginings of feelings, which intelligence can distinguish from (current) feelings proper only by recognizing the image to be of a feeling experienced at an earlier date when the self was at a particular place.
30. In a related vein, Popper suggests that one "needs an almost explicit *theory* of time…to look upon oneself as possessing a past, a present and a future; as having a personal history; and as being aware of one's personal identity (linked to the identity of one's body) throughout this history. Thus it is a *theory* that, during sleep, when we lose continuity of consciousness, we – our bodies – remain essentially the same; and it is on the basis of this theory

that we can consciously recall past events (instead of merely being influenced by them in our expectations and reactions, which ... is the more primitive form which the memory of animals takes." Since, as Popper admits, animals have a sense of time and temporal expectations (and Popper even extends such sense of time and temporal expectations to plants), it should be apparent that the subjective-objective spatiotemporal awareness of intuition can operate without linguistic intelligence, and thereby apply to dumb animals and preverbal children. What needs clarification is what gets added to this rudimentary awareness of time and space when intelligence can *theorize conceptually* about these relationships. See Karl R. Popper, "The Open Universe: An Argument for Indeterminism," from the *Postscript to the Logic of Scientific Discovery* (Totowa, NJ: Rowman and Littlefield, 1982), 158.

31. In this connection, Hegel writes, "At and towards this its own out-of-selfness, intelligence no less essentially directs its attention. In this its immediacy, it is an awakening to itself, a recollection of itself. Thus intuition becomes a concretion of the material with the intelligence, which makes it its own, so that it no longer needs this immediacy, no longer needs to find the content" (*Philosophy of Mind*, §450, 200–1).
32. Hegel, *Philosophy of Mind*, *Zusatz* to §450, 201.
33. Hegel describes this contrast as follows: "as regards the relation of intuition to representation, the former has only this in common with the latter, that in both forms of mind the object is separate from me and at the same time also my own. But the object's character of being mine is only implicitly present in intuition and first becomes explicit in representation. In intuition, the objectivity of the content predominates. Not until I reflect that it is I who have the intuition, not until then do I occupy the standpoint of representation" (*Philosophy of Mind*, *Zusatz* to §449, 199).

3 Intelligence as Representation

1. For a systematic account of the psychological development from psyche to consciousness, see Richard Dien Winfield, *The Living Mind: From Psyche to Consciousness* (Lanham, MD: Rowman and Littlefield, 2011), 125–41.
2. Hegel, *Philosophy of Spirit*, *Zusatz* to §441, 182.
3. Even though, as we shall see, the image involves some abstraction from aspects of content that are bound up with the immediate entanglements of the object of intuition, because what is left over in the image is part of the same content found in the original intuition, direct scrutiny of the image's content cannot determine whether it is an image or an intuition upon which intuitive attention has focused.
4. Hegel analogously describes how "intelligence, as it first recollects the intuition, places the content of feeling in its own inwardness – in a space and time of its own. In this way that content is 1) an *image* or picture liberated from its original immediacy and abstract singleness amongst other things, and received into the universality of the ego" (*Philosophy of Mind*, §452, 203).
5. This formality of the content of intelligence will be overcome only when thinking thinks what is intrinsic to reason. For now, as Hegel observes, "the image is mine, it belongs to me; but, to begin with, it has no further

homogeneity with me," and due to this externality of image content, "I do not yet have full command over the images slumbering in the mine or pit of my inwardness, am not as yet able to recall them at will" (*Philosophy of Mind*, *Zusatz* to §453, 204).

6. Jonas points to these positive differences in content that get subsequently added to the "omitting and selecting" of reproductive imagination's basic abstraction from the immediacy of intuition. See Hans Jonas, *The Phenomenon of Life: Toward a Philosophical Biology* (Evanston, IL: Northwestern University Press: 2001), 161–2.
7. Hegel similarly describes this abstracting away of content: "The image loses the full complement of features proper to intuition, and is arbitrary or contingent, isolated, we may say, from the external place, time, and immediate context in which the intuition stood" (*Philosophy of Mind*, §452, 203).
8. Hegel likewise writes, "since intelligence is ... self-existent, infinite ideality, or universality, its space and time is *universal* space and *universal* time. Consequently, in placing the content of feeling in inwardness of intelligence and thereby making it a mental representation, I lift it out of the *particularity* of space and time to which, in its immediacy, it is tied, and on which I, too, am dependent in feeling and intuition. ... I can form a mental image of something wherever I am, even of what is remotest from me in external space and time" (*Philosophy of Mind*, *Zusatz* to §452, 203).
9. Eva Brann cites this passage in Plato's *Sophist* 240b–c, commenting that "an image *is* truly a likeness and is really *not* its original." See Eva Brann, *The Ways of Naysaying: No, Not, Nothing, and Nonbeing* (Lanham, MD: Rowman and Littlefield, 2001), 139–40.
10. Hegel emphasizes this loss, writing, "what is imaged gains this imperishableness only at expense of the clarity and freshness of the immediate individuality of what is intuitively perceived in all its firmly determined aspects; the intuition, in becoming an image, is obscured and obliterated" (*Philosophy of Mind*, *Zusatz* to §452, 203).
11. Errol Harris makes this point, observing that the theory of perception has repeatedly fallen prey to the fallacy of mistaking being-in-itself for being-for-consciousness, that is, depicting "the 'idea' of an 'external' thing as an image or a representation of its object," although "no image or representation reflects or represents the relation between itself and its archetype – the relation of imaging or representing." See Errol Harris, *An Interpretation of the Logic of Hegel* (Lanham, MD: University Press of America, 1983), 111. Harris's observation helps explain why consciousness does not, properly speaking, engage in representation.
12. As Jonas points out, this "image, in the place of effect, can be looked at and compared, in memory retained and recalled, in imagination varied and freely composed. This separation of contained appearance from intrusive reality, gives rise to the separableness of essence from existence that underlies the higher freedoms of theory" (*The Phenomenon of Life*, 31).
13. Jonas notes how this detachment ultimately makes thinking possible insofar as "the image is handed over to imagination, which can deal with it in complete detachment from the actual presence of the original object: this detachability of the image, i.e. of 'form' from its 'matter,' of 'essence' from 'existence' is at the bottom of abstraction and therefore of all free thought"

(*The Phenomenon of Life*, 147). To substantiate this claim, we must follow out the path from representation to thought.

14. As Hegel writes, "the image is of itself transient and intelligence itself is as attention its time and also its place" (*Philosophy of Mind*, §453, 204).
15. Eva Brann makes this point, citing Aristotle's discussion in *Movements of Animals* 702 a19. See *The Ways of Naysaying*, xvii, n. 3.
16. As Jonas observes, this recognition depends upon the manifest "artificiality" of the produced representation, which in the case of an intended likeness requires the perceivability of the incompleteness of the resemblance between the externalized representation and its object. This incompleteness ordinarily consists in the externalized image reproducing only the outer appearance of the object rather than containing its inner substance as well. Otherwise, the "representation" becomes a duplication or a simulation of the original rather than a tangible image of it. See *The Phenomenon of Life*, 159–60.
17. For this reason, when Jonas suggests that image making is a distinctly human capacity he is addressing not just the internalization of intuitions but the generalized communicative intelligence that dumb animals lack. See *The Phenomenon of Life*, "Image-Making and the Freedom of Man," 157–75.
18. Kant argues in behalf of this claim in his "Refutation of Idealism." See Immanuel Kant, *Critique of Pure Reason*, trans. and ed. Paul Guyer and Allen W. Wood (Cambridge: Cambridge University Press, 1998), B274–9, 326–9.
19. The movement in question might seem to involve *any* observable change in a material thing, but not alterations in sensations that have no material mooring in the persisting existence of some matter. Without that mooring, the sensations are simply different mental states, with nothing to connect them in a continuous temporal succession. Matter, however, cannot be perceived apart from the understanding of force, which requires some perception of movement. Hence, motion must be perceived alongside any other sensible changes.
20. Hegel upholds the latter point, writing that "all that happens possesses duration for us only when it is taken up by ideating intelligence" (*Philosophy of Mind*, *Zusatz* to §452, 203), where "ideating intelligence" signifies intelligence that represents and therefore, in the first instance, recollects.
21. Hegel describes these contrasts, writing, "in *intuition* time becomes short for us when we have plenty to perceive, but long when the lack of given material drives us to contemplation of our empty subjectivity; ... conversely, in mental representation, those time in which we were occupied in various different ways appear long to us, whereas those times in which we were not very busy seem to be short. Here, in recollection, we attend to our inner subjectivity, our inwardness, and measure time according to the interest which this has had for us. In the case of intuition, we are immersed in the contemplation of the *object*, and time seems short to us when it is filled with an ever-changing content, but long when nothing interrupts its monotony" (*Philosophy of Mind*, *Zusatz* to §452, 203–4).
22. In this connection, Aristotle maintains that "both the very young and very old persons are defective in memory" because physiologically "they are in a state of flux, the former because of their growth, the latter owing to their decay" (*On Memory*, 450b6–7, in *The Complete Works of Aristotle*, vol. 1), 715.

23. As Hegel observes, between the image "and myself there exists a relationship which is not truly free, which still stems from the standpoint of intuition and according to which I am only the inner side, and the image is for me something external. Therefore, to begin with, I do not as yet have full command over the images slumbering in the mine or pit of my inwardness, am not as yet able to recall them at will. No one knows what an infinite host of images of the past slumbers in him; now and then they do indeed accidentally awake, but one cannot, as it is said, call them to mind. Thus the images are *ours* only in a *formal* manner" (*Philosophy of Mind*, *Zusatz* to §453, 204–5).
24. In the third of his *Meditations*, Descartes introduces an analogous argument concerned with proving that ideas caused by objects must resemble them since otherwise there would be no ground for why any idea has the content it has. Descartes himself earlier called into question this argument, by raising the possibility that mind could be affecting itself, as well as be deceived by an all-powerful deceiver. Here, this problem does not arise, since no reference is made to the content of something independent of mind. Instead, the connection is between the content of intuitions and how their resemblance can trigger another mental development.
25. See Hegel, *Philosophy of Mind*, addition to §454, 205.
26. As Eva Brann observes, "without introspection the imagination is twice lost. For not only is any first-hand description of its effects proscribed, but its very activity, insofar as it is itself a type of introspection, is precluded." See Eva Brann, *The World of the Imagination: Sum and Substance* (Savage, MD: Rowman and Littlefield, 1991), 195.
27. Hegel, *Philosophy of Mind*, §453, 204.
28. Hegel characterizes this "subconscious mine" of recollectible images that intelligence comprises as an "*existent* universal in which the different has not yet been realized in its separations" and calls "this potentiality … the first form of universality offered in mental representation" (*Philosophy of Mind*, §453, 204). This universality that intelligence possesses as the common repository of inwardized intuitions, awaiting actualization in recollection, is formal in character since what those intuitions and images are is given independently of the unity of intelligence. The same formality applies to the psyche as the repository of habits.
29. Henri Bergson, *Matter and Memory* (New York: Cosimo Classics, 2007), 92.
30. Aristotle accordingly observes that "only those animals which perceive time remember, and the organ whereby they perceive time is also that whereby they remember." See *On Memory*, 449b28–29, vol. 1, 714.
31. As Bergson notes, "To *picture* is not to *remember*. No doubt a recollection, as it becomes actual, tends to live in an image; but the converse is not true, and the image, pure and simple, will not be referred to the past unless, indeed, it was in the past that I sought it" (*Matter and Memory*, 173–4).
32. Hegel criticizes the view that talks about "special fibers and areas as receptacles of particular representations," as if diverse images "should … have a local habitation peculiar to itself." It fails to recognize that the internalization of intuitions produces a *potentiality* for recall, which is hardly equivalent to the presence of the image in the brain prior to its retrieval. See *Philosophy of Mind*, §453, 204. See Bergson, *Matter and Memory*, 159–60, 164, 167.

33. Eva Brann suggests that this cannot apply to sensations of touch, which allegedly have a "nonimaginal character" since "if there were true touch-images, mental images might be almost indistinguishable from percepts" (*The World of Imagination*, 198). As all tactile recollections show, however, there are touch-images, which are distinguishable from intuitions due not to their own content but to the contextual abstraction and re-presentation by which imagination can recognize its own products to be the results of either reproductive or productive imagining.
34. Aristotle writes, "By nature animals are born with the faculty of sensation, and from sensation memory is produced in some of them, though not in others. And therefore the former are more intelligent and apt at learning than those which cannot remember." See Aristotle, *Metaphysics*, book I, ch. 1, 980a28–31 (*Complete Works*, vol. 2, 1552).
35. Hans Jonas does this, explaining that "human *memory* is distinguished from animal recollection" in that "the latter is joined to actual sensation" and "may function on the occasion of a present perception in which a previous one is recognized by way of the quality 'familiar' or 'known' with which the present experience is imbued. Or, instead of accompanying repetitive perception as it occurs, recall may be evoked by appetite and projectively guide animal action toward a desired repetition ('remembering' the way to yesterday's feeding place), with 'recall by familiarity' marking the successful progress of the action. But there is nothing to show that this kind of remembering enjoys an imaginary presence of its objects, and everything to argue against the assumption that, if it does, this presence is at the subject's command, to be summoned and dismissed at will. Appetitive need or actual perception governs the reactivation of past experience." See *The Phenomenon of Life*, 170.
36. For an account of perception and understanding, see Winfield, *The Living Mind*, 159–87.
37. Bergson, *Matter and Memory*, 25, 69, 80.
38. Bergson, *Matter and Memory*, 94.
39. Bergson tends to regard this interlacing as constitutive of perception, claiming that "perception and recollection always interpenetrate each other" (*Matter and Memory*, 72). In so doing, he confuses the unconscious syntheses of perception with recollection.
40. Bergson maintains that habit's motor memory will constantly inhibit recollection by allowing only those recollections that serve what is useful in the present situation (*Matter and Memory*, 97). He does not explain how this can occur. Although individuals can recollect the behavior by which they acquired habits, what habit contributes to the selectivity of memory rests on habit's giving mind the power to withdraw from current feelings. This may defer recollections that depend upon attending to familiar intuitions but not any further selectivity for limiting recollection.
41. Bergson, *Matter and Memory*, 198–9.
42. Bergson links this uncontrolled effusion of memories in sleep to the experience of an individual who, brought to life after sudden suffocation, "states that he saw, in a very short time, all the forgotten events of his life passing before him with great rapidity, with their smallest circumstances, and in the very order in which they occurred" (*Matter and Memory*, 200).

43. Bergson suggests that whereas the former situation is restricted to apprehending resemblances, and the latter situation is restricted to apprehending differences, apprehension of general ideas requires both currents at once. See *Matter and Memory*, 202.
44. A. R. Luria, *The Mind of a Mnemonist: A Little Book about a Vast Memory*, trans. Lynn Solotaroff (Cambridge, MA: Harvard University Press, 1987), xxii.
45. Luria, *The Mind of a Mnemonist*, 112, 128–9.
46. Luria, *The Mind of a Mnemonist*, 112.
47. Luria, *The Mind of a Mnemonist*, 130. The mnemonist continues, "In order for me to grasp the meaning of a thing, I have to see it" (*The Mind of a Mnemonist*, 131).
48. Luria, *The Mind of a Mnemonist*, 58.
49. Luria, *The Mind of a Mnemonist*, 120.
50. Luria, *The Mind of a Mnemonist*, 132.
51. Hegel suggests that this free recall of the image depends upon frequent prior recollections, whereby the image "acquires such intense vividness and is so present to me that I no longer need the external intuition to remind me of it" (*Philosophy of Mind*, *Zusatz* to §454, 206). It is unclear, however, how the intensity of the image enables mind to bring it to mind without an external occasion. The key factor is what facility intelligence acquires to re-present internalized intuitions on its own.
52. See Kant's account of these syntheses in the "A Deduction" of his *Critique of Pure Reason*, A 100–2, 115–24.
53. Vygotsky notes that "for the very young child, to think means to remember," suggesting that there is a developmental stage at which intelligence only engages in reproductive memory, recalling intuitions without yet engaging in productive imagining, associating images in manifold ways (L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*, ed. Michael Cole, Vera John-Steiner, Sylvia Scribner, and Ellen Souberman [Cambridge, MA: Harvard University Press, 1978], 50). Structurally speaking, the dependence of productive upon reproductive imagination makes this possible. Since, however, perception already involves unconsciously associating aspects of sensations as properties of things, the development of perception from sensation provides much of what the very young child needs to move from reproductive to productive imagination. What provides a bridge is the emergence of intelligence itself, resulting from the mutual recognition of self-conscious individuals that enables mind to be aware of its mental contents as being both subjective and objective. See Winfield, *The Living Mind*, 212–24, for an extended account of this emergence.
54. For this reason, Hegel stresses that the associations comprising the first engagements of productive imagination associate images and not "ideas," where ideas are understood to be general representations (see *Philosophy of Mind*, §455, 206). The associations of images themselves comprise general representations by presenting a mental content that unites images in terms of abstract universality (where the mental content inheres in a plurality of images) or class (where the mental content contains a plurality of images). Relations between general representations presuppose the association of images.
55. Hegel, *Philosophy of Mind*, *Zusatz* to §451, 202.

56. This opens the divide between images of recollection, which Eva Brann describes as "memory-images … which copy their perceptual originals," and what she describes as "imaginative images," which can "image certain fictive archetypes," deriving their originality from the spontaneous associations of productive imagination (*World of the Imagination*, 193–4).
57. As we shall see, associative imagination paves the way for a second form of productive imagination, semiotic imagination.
58. In associative imagination, "I … posit the connection. By this, intelligence gives images a subjective bond in place of their objective one" (Hegel, *Philosophy of Mind*, *Zusatz* to §455, 208). The associated content, however, retains an external dimension, given how it derives from intuition.
59. In this connection, Hegel writes that "it is solely in the conscious subject … that the image has the individuality in which the features composing it are conjoined; whereas their original concretion, i.e. at first only in space and time, as a *unit* of intuition, has been broken up" (*Philosophy of Mind*, §455, 206).
60. As Vygotsky observes, "the ability to form elementary associations is not sufficient to ensure that the associative relation will fulfill the *instrumental* function necessary to produce recall" (*Mind in Society*, 49). It does, however, hugely enlarge the possibilities of recollection, since mind is no longer dependent upon the occasions that current intuitions provide.
61. With respect to childhood development, Vygotsky observes that action in the imaginary situation of play "teaches the child to guide her behavior not only by immediate perception of objects or by the situation immediately affecting her but also by the meaning of this situation." "*Thus*," Vygotsky notes, "*a condition is reached in which the child begins to act independently of what he sees*." See *Mind in Society*, 97.
62. Vygotsky suggests as much, claiming that "imagination is a new psychological process for the child; it is not present in the consciousness of the very young child, is totally absent in animals, and represents a specifically human form of conscious activity" (*Mind in Society*, 93).
63. Vygotsky, *Mind in Society*, 93.
64. As Hegel observes, "images are already more universal than intuitions" (*Philosophy of Mind*, *Zusatz* to §456, 209) owing to the abstraction they undergo in being severed from their immediate entanglements and internalized by intelligence. Nonetheless, this universality consists just in a removal of some of their intuited content and their possession by the same mind that possesses all other images within its recollection rather than in any positive transformation of content.
65. Jonas suggests that the dumb animal "perceives either sameness or otherness, but not *both in one*, as we do in apprehension of similitude" (*Phenomenon of Life*, 166). If this were true, then general representations would be inaccessible to prediscursive minds in general, at least to the degree that abstract universals and class membership involve the sameness of inherence and class membership respectively and the difference of being individual bearers of qualities and individuated members. Nonetheless, it is hardly evident that general representations require linguistic competence. Rather, as we shall see, semiotic imagination will itself depend upon general representations, which as such must be prelinguistic.

66. Hegel points this out, writing that "it is in turning my attention to this connection that I arrive at *general* ideas, or to ideas (representations) in the strict sense of the word" (*Philosophy of Mind*, Zusatz to §456, 209).
67. Bergson suggests that generalization by abstraction is afflicted by a vicious circularity, since to abstract the same content from multiple intuitions, one must allegedly already be able to recognize their similarity, which is to say that one must already know how to generalize (see *Matter and Memory*, 202–3). Bergson purports to overcome this vicious circularity by drawing upon the generality of independently established motor habits, to which image contents are connected and thereby recognized to be similar (208–9, 217–18). One can still ask how relating the same motor habit generality to different recollected intuitions can comprise a representation of their similarity without presupposing recognition of the equivalence of the tie to habit and resemblance. The alleged problem of vicious circularity can be set aside, however, insofar as intelligence can find the same content in multiple images simply by associating that content with each of them and keeping that association in mind.
68. As Jonas observes in connection with externalized images, "not only can one object be represented in an indefinite number of images, but also, and more typically, one image can represent an indefinite number of objects. ... The representation, since it is through form, is essentially general. Image sensibly symbolizes generality poised between the individuality of the imaging thing and that of the imaged objects" (*Phenomenon of Life*, 165).
69. Hegel maintains that the general representation engendered by associative productive imagination is not limited to an abstract universal or a class, but can also be a genus (*Philosophy of Mind*, *Zusatz* to §456, 209). This requires that the representation be a universal that contains its particularization, insofar as the genus entails its species, even though the members of its lowest species are still not individuated by their membership.
70. As Hegel writes, "in generating general ideas, intelligence is spontaneously active; it is therefore a stupid mistake to assume that general ideas arise, without any help from mind, by a number of similar images coming into contact with one another. ... Of course, the *particular* element belonging to the image is something given; but the analysis of the concrete individuality of the image and resultant form of universality come ... from myself" (*Philosophy of Mind*, *Zusatz* to §456, 210).
71. Hegel, *Philosophy of Mind*, § 455, 207.
72. See Hegel, *Philosophy of Mind*, *Zusatz* to §456, 209.
73. Hegel, *Philosophy of Mind*, §456, 209.
74. Hegel describes the general representation as something "to supply the link of association for the images," whose content belongs "to the self-identical unity of intelligence" as "an output from its universal mine" (*Philosophy of Mind*, §455, 206).
75. Hegel does describe intelligence as having united universal and particular, inward and outward, representation and intuition, insofar as the universal representation becomes the substantial power over the image, rendering it an accident (*Philosophy of Mind*, *Zusatz* to §456, 209). Nonetheless, as Hegel himself points out in his treatment of the logical relation of substance and accident, substance does not contain any principle determining the specific individuality of its accidents.

76. Kant, *Critique of Pure Reason*, A140, B180, 273. By contrast, Kant describes the schema of a pure geometric "concept" (e.g., of a triangle) as existing only in thought, since it comprises "a rule of the synthesis of the imagination with regard to pure objects in space" (A141, B180, 273).
77. Kant, *Critique of Pure Reason*, A140, B180, 273. The above description more accurately identifies a quadruped, without affording anything more specifically canine in nature. This discrepancy is indicative of Kant's overly discursive characterization of experience and empirical concepts. Kant distinguishes the schemas of empirical concepts from those of both geometric figures and pure concepts as follows: "The **image** is a product of the empirical faculty of productive imagination, the **schema** of sensible concepts (such as figures in space) is a product and as it were a monogram of pure *a priori* imagination, through which and in accordance with which the images first become possible, but which must be connected with the concept, to which they are in themselves never fully congruent, always only by means of the schema that they designate. The schema of a pure concept of the understanding, on the contrary, is something that can never by brought to an image at all, but is rather only the pure synthesis, in accord with a rule of unity according to concepts in general, which the category expresses, and is a transcendental product of the imagination, which concerns the determination of the inner sense in general, in accordance with conditions of its form (time) in regard to all representations, insofar as these are to be connected together *a priori* in one concept in accord with the unity of apperception" (A141–2/B180–1, 273–4).
78. Making this translation into formulae of algebraic geometry requires more than the association of images it draws upon. As Plato notes in his discussion of the divided line, geometric understanding uses images to convey purely formal relationships, which is why these may involve necessities that no association of individuals can guarantee (Plato, *The Republic*, in *Complete Works*, ed. John M. Cooper [Indianapolis: Hackett, 1997], 510b–11b). Symbolization must enter into mathematical modeling, whose expression requires linguistic intelligence. This is why general representations in and of themselves may convey an understanding of figurative abstract universals and classes, as well as the rules these may involve, but they do not provide the resources for the comprehension of necessity and law, geometric or otherwise.
79. As Hegel observes, "the so-called *laws of the association of ideas*" are misnamed, for "in the first place it is not *Ideas* (properly so called) which are associated. Secondly, these modes of relation are not *laws*, just for the reason that there are so many laws about the same thing, as to suggest a caprice and a contingency opposed to the very nature of law" (*Philosophy of Mind*, §455, 206).
80. Hegel draws a distinction between them under the rubric of the difference between the image (*Bild*) and the representation (*Vorstellung*). See *Philosophy of Mind*, §455, 207.
81. With respect to the autonomy of reason, the key deficiency of representation is the residual given and immediate nature of its content. As Hegel observes, "representation ... finds its material, as a matter of fact, to *be* so and so" (*Philosophy of Mind*, §455, 207), leaving it conditioned and relative. The givenness of content in representation is connected with two other features distinguishing it from the content of thought: its "individualism or isolation"

(G. W. F. Hegel, *Logic: Being Part One of the Encyclopaedia of the Philosophical Sciences*, trans. William Wallace [Oxford: Oxford University Press, 1975], §20, 30). By contrast, thinking can have autonomy insofar as concepts transform themselves, relating themselves to what they are not and retaining their identity while determining themselves.

82. That this is so is established by systematic logic. For a detailed account of how the concept proper involves individuality, see Richard Dien Winfield, *From Concept to Objectivity: Thinking Through Hegel's Subjective Logic* (Aldershot, UK: Ashgate, 2006), 51–65.
83. See Jonas, *Phenomenon of Life*, 167.
84. See Jonas, *Phenomenon of Life*, 167.
85. Aristotle, *Posterior Analytics*, book II, ch. 19, 100a, in *The Complete Works of Aristotle*, vol. 1, ed. by Jonathan Barnes (Princeton, NJ: Princeton University Press, 1984), 166.
86. Vygotsky notes that as the psychological observations of Buhler have confirmed, "the beginnings of practical intelligence in the child (he termed it 'technical thinking') as well as the actions of the chimpanzee, are independent of speech" (*Mind in Society*, 21).
87. Vygotsky, following the observations of Köhler and others, explains that "For the ape, the task is unsolvable unless the goal and the object needed to reach it are both simultaneously in view. ... The ape will perceive a stick one moment, but cease to pay attention to it after its visual field has changed and the goal comes into view. The ape must see his stick in order to pay attention to it; the child may pay attention in order to see" (*Mind in Society*, 36).
88. Vygotsky observes that the "zoological approach to the higher intellectual processes – those that are uniquely human – has led psychologists to interpret the higher intellectual functions as a direct continuation of corresponding processes in animals. This style of theorizing is particularly apparent in the analysis of practical intelligence in children, the most important aspect of which concerns the child's use of tools." Although "the pitfalls are slight in research that focuses on the preverbal period in the child's development," this approach cannot grasp the emergence of linguistic intelligence and "the integration of speech and practical intelligence in the course of development" (*Mind in Society*, 20, 21, 22).
89. As reported by Vygotsky, Guillaume and Meyerson have found in their studies of tool use among apes that "the methods used by apes to accomplish a given task are similar in principle and coincide on certain essential points with those used by people suffering from aphasia (that is, individuals who are deprived of speech)." See *Mind in Society*, 22. This conclusion regarding aphasia victims is cast in doubt by Vygotsky's editors (136, n. 10).
90. Hegel, *Philosophy of Mind*, addition to *Zusatz* 456, 210. As we have seen, this dual movement is analogous to what Kant ascribes to his schemas of empirical concepts.
91. David Hume, *A Treatise of Human Nature*, ed. L. A. Selby-Bigge (Oxford: Oxford University Press, 1965), 11.
92. See Kant, *Critique of Pure Reason*, "The Second Analogy," A188–211/B232–56, 304–15.
93. Lev Vygotsky, *Thought and Language*, rev. and ed. Alex Kozulin (Cambridge, MA: MIT Press, 1986), 144–5.

94. Vygotsky, *Thought and Language*, 110.
95. Vygotsky, *Thought and Language*, 112.
96. Vygotsky describes these as complexes, which comprise the second phase on the way to concept formation. See *Thought and Language*, 112.
97. Vygotsky, *Thought and Language*, 114.
98. Vygotsky, *Thought and Language*, 115.
99. Vygotsky, *Thought and Language*, 116.
100. Vygotsky observes that such "a complex does not rise above its elements as does a concept. The elements of a complex enter it as perceptually concrete wholes with all their attributes and connections. ... This fusion of the general and the particular, of the complex and its elements, ... is distinctive of all complex thinking and of the chain complex in particular" (*Thought and Language*, 117). Such "complex thinking" is thus not conceptual thinking proper but figurative representation.
101. Vygotsky, *Thought and Language*, 117–18.
102. Vygotsky, *Mind in Society*, 50. Accordingly, Vygotsky notes, "*For the young child to think means to recall; but for the adolescent to recall means to think*" (*Mind in Society*, 51).
103. Hegel, *Philosophy of Mind*, §454, 205.
104. However, as William James points out, if the generalized representation is recalled as a figurative memory, the mental activity (and its neurological realization) must be different from its initial production by associative imagination. This is because intelligence is aware of its generalized representation *as a memory* only by recognizing that it has been imagined *before*, which involves a different, more complex mental activity than the original imagining. See William James, *Psychology: Briefer Course*, in *Writings 1878–1899* (Cambridge, MA: Library of America, 1984), 158, 273.
105. James, *Psychology: Briefer Course*, 163, 259–60.
106. James, *Psychology: Briefer Course*, 260–2.
107. Karl Popper points this out in *The Open Universe: An Argument for Indeterminism*, from the *Postscript to the Logic of Scientific Discovery* (Totowa, NJ: Rowman and Littlefield, 1982), 156, noting that "the second hearing of the melody is connected with an act of *recognizing* the melody, which was absent the first time." For this reason, he further observes (156), the two acts of hearing and remembering the melody do not involve a recurring element to which a separate recognition is added. Rather, hearing the melody as something one recognizes is a different act of association from hearing it the first time.
108. Jonas, *Phenomenon of Life*, 170–1.
109. Jonas suggests that image making privileges vision, as if "man's nature has decided in advance for the visual aspect as representative of things" (*Phenomenon of Life*, 160). One can question this privileging, just as one can question whether language must privilege hearing and/or sight over other senses. Can the blind engage in image making, and can the deaf and blind acquire language without depending upon those who have hearing and/or sight? Certainly sound provides some, albeit limited, resources for representation, just as does touch under the limitation of immediate contact.
110. For a more detailed account of the expression of feeling by the psyche, see Winfield, *Living Mind*, 132–5.

111. Vygotsky draws such a distinction between "natural" and "nonnatural memory," describing the former as "dominating in the behavior of nonliterate peoples" and "characterized by the nonmediated impression of materials, by the retention of actual experiences as the basis of mnemonic (memory) traces." By contrast, the activity of nonnatural memory is "absent in even the highest species of animals; we believe that these sign operations are the product of specific conditions of *social* development." See *Mind in Society*, 38–9. Whether dumb animals can have nonnatural memory is a question that converges with that of whether they are capable of image making. As we shall see, Vygotsky's denial of the former corresponds with Jonas's denial of the latter.
112. Jonas maintains that this "eidetic control of motility" is a "uniquely human fact." In this connection, Jonas describes the making of likenesses as "the first form of theoretical truth – the precursor of verbally descriptive truth" (*Phenomenon of Life*, 172). If, however, theory, properly speaking, involves conceptualization and concepts require language, theoretical truth *is* verbally descriptive truth. By the same token, external behavior controlled by imagery need not be exclusively human, any more than need be the "eidetic control of imagination, with its freedom of internal drafting" (*Phenomenon of Life*, 172). Must one deny that at least some dumb animals might dream or even daydream?
113. Pantomime and dance can overcome this limitation, as Jonas acknowledges. See *Phenomenon of Life*, 163.
114. Jonas, *Phenomenon of Life*, 162–3.
115. Jonas, *Phenomenon of Life*, 159.
116. Jonas, *Phenomenon of Life*, 158.
117. Jonas formulates this relation as follows: "The complete articulation is threefold. The substratum can be regarded by itself, the image by itself, the object of the image by itself" (*Phenomenon of Life*, 164).
118. As Jonas remarks, "Making an image involves the ability to behold something as an image; and to behold something as an image and not merely as an object means also to be able to produce one" (*Phenomenon of Life*, 165).
119. Vygotsky notes the role of children's drawing as graphic speech that may be thought to serve "as a preliminary stage in the development of written language." Accordingly, Vygotsky observes, children draw from memory, without looking at the original, striving not to represent but to graphically designate or "name" what they draw. See *Mind in Society*, 112–13.
120. See the seventh essay, "Image-making and the Freedom of Man," in Jonas, *Phenomenon of Life*, 157–75.
121. Vygotsky affirms that "drawing begins in children when spoken speech has already made great progress and has become habitual," seeming to corroborate Jonas's claim that pictorial representation is evidence of "human" discursive intelligence. See *Mind in Society*, 112.
122. It also allows the same object to be represented by many different externalized images, as Jonas notes (*Phenomenon of Life*, 165).
123. Jonas, *Phenomenon of Life*, 166–7.
124. Jonas, *Phenomenon of Life*, 166.
125. Jonas, *Phenomenon of Life*, 168–9.
126. Jonas, *Phenomenon of Life*, 167, 172–3.

127. Jonas, *Phenomenon of Life*, 167.
128. This is indicated in Jonas's account of the abstractions in perception, where he admits that each view of the perceived thing represents the object "symbolically," since no particular successive view coincides with the object in general. Thus, "abstraction, representation, symbolism – *something* of the image function – already inheres in the performance of seeing" and this "must then be credited even to some higher animals" (*Phenomenon of Life*, 170).
129. In *Phenomenon of Life*, 173, Jonas insists, "The generality of the name is the generality of the image. The early hunter drew not this or that bison but *the* bison – every possible bison was conjured, anticipated, remembered thereby. The drawing of the image is analogous to the act of calling by name, or rather is the unabridged version of this act, because it spells out in a sensible presence that inner image of which the phonetic sign is an abbreviation." As we shall see, words may originate in relation to general representations, but verbal meaning comes to supersede inner image with conceptual determination.
130. Vygotsky (*Thought and Language*, 72) observes that "there is no evidence ... that animals reach the stage of objective representation in any of their activities. Köhler's chimpanzees ... never exhibited the slightest intent of representing anything in their drawings or the slightest sign of attributing any objective meaning to their products."
131. Jonas, *Phenomenon of Life*, 158.
132. Jonas claims that "man's nature has decided in advance for the visual aspect as representative of things" (*Phenomenon of Life*, 160), maintaining that "vision grants the greatest freedom to the mediacy of representation, not only by the wealth of data from which the latter can choose but also by the number of variables of which visual identities admit" (*Phenomenon of Life*, 162). "Through all these variations" in visual images of size due to distance, of hue due to light conditions, and of detail due to both, "the form remains identifiable and continuously represents the same thing. With such phenomenological traits, to which no other sense offers a full analogy, vision itself suggests the idea of representation and, as its means, an idea of 'form' whose identity rests entirely in the proportion of its parts." Visual imagery is thereby the "home ground of abstraction," most suitable to represent the form (*eidos*) of things (*Phenomenon of Life*, 162). Even so, visual imagery remains figurative, so that the abstraction it allows is conditioned, unlike the unconditioned, insensible universality of thought that verbal expression can convey. Moreover, representation need not be limited to depicting visual shape, for any image or general representation can be externalized.
133. Jonas, *Phenomenon of Life*, 160.
134. Jonas, *Phenomenon of Life*, 161.
135. Jonas, *Phenomenon of Life*, 172–3.
136. Jonas himself equivocates, writing that "explorers, chancing upon pictorial representation ... can be sure of having discovered, in the makers of those likenesses, creatures who enjoy the mental and corporeal freedom we term human; who also give names to things, that is, have language. They can be sure of the possibility of communicating with them. ... The encountering of artificial likenesses, then, is the heuristic experience we have been looking for, and in its inner implications this external criterion points to

the differentia of man. We note that the criterion does not demand reason but is content with potential reason ... The potentiality resides in something that is not itself reason (and so on), and may never happen to advance to it" (*Phenomenon of Life*, 174).

137. Hegel describes this move in *Philosophy of Mind*, §455, 208.
138. The awareness of the unity of subject and object is an implicitly rational awareness because it apprehends the unity constitutive of reason, that subjectivity and objectivity have an intrinsic unity allowing thought to lay hold of what independently is.
139. Hegel makes this point in *Philosophy of Spirit*, *Zusatz* to §457, 211.
140. Jonas discusses the symbolic function of these "emancipations from 'literalness'" in *Phenomenon of Life*, 161–2.
141. This is true, whether or not the response to the signal is an inherited instinctive reaction or one learned through experienced associations. In this connection, Aristotle writes (*Politics*, book I, ch. 2, in *The Complete Works of Aristotle*, vol. 2, ed. Jonathan Barnes [Princeton, NJ: Princeton University Press, 1984]) that, unlike speech, "mere voice is but an indication of pleasure or pain, and is therefore found in other animals (for their nature attains to the perception of pleasure and pain and the intimation of them to one another, and no further)." Admittedly, certain animals reportedly make different noises to indicate the presence of specific predators, suggesting that these noises operate as words designating different animals rather than as expressions of drives. Significantly, these noises appear to be genetically determined rather than enacted and learned in a particular community with its own "culture." As we shall see, this renders them something different than a communicable product of semiotic imagination.
142. See Jonas, *Phenomenon of Life*, 167.
143. Vygotsky, *Mind in Society*, 97.
144. Vygotsky describes how children first employ signs as "the fixation of gestures," just as children's scribbling first "fixes the indicatory gesture" with pencil before graphically denoting objects. See *Mind in Society*, 107–8.
145. According to Vygotsky (*Mind in Society*, 23), Köhler's classic experiments with apes "demonstrated the futility of attempting to develop even the most elementary sign and symbolic representations in animals. ... These experiments show once more that the purposive behavior of the animal is independent of any speech or sign-using activity."
146. Vygotsky, *Mind in Society*, 28.
147. Insofar as sign use enters into speech, it is understandable that, as Vygotsky observes (*Mind in Society*, 26), what "distinguishes the actions of the speaking child from the actions of an ape when solving practical problems" is "the incomparably greater *freedom* of the child's operations, their greater independence from the structure of the concrete, visual situation. Children, with the aid of speech, create greater possibilities than apes can accomplish through action."
148. Vygotsky writes (*Mind in Society*, 26), "The ape typically makes a series of uncontrolled attempts to solve the given problem. In contrast, the child who uses speech divides the activity into two consecutive parts. She plans how to solve the problem through speech and then carries out the prepared solution through overt activity."

149. See Vygotsky, *Mind in Society*, 39. By permitting "humans, by aid of extrinsic stimuli, *to control their behavior from the outside*," writes Vygotsky, "the use of signs leads humans to behavior that breaks away from biological development and creates new forms of a culturally-based psychological process" (*Mind in Society*, 40).
150. As Vygotsky notes (*Mind in Society*, 53–4), "Dewey ... defines the tool as the tool of tools," ignoring how "distinctions between tools as a means of labor of mastering nature, and language as a means of social intercourse become dissolved in the general concept of artifacts."
151. Jonas notes this limitation in *Phenomenon of Life*, 167.
152. In producing signs, Hegel notes, intelligence gives the general representations produced by its associating imagination a definite existence in an intuition, which it thereby renders a possession belonging to mind. Now, rather than connoting the object to which it otherwise refers, the intuitable configuration of the sign connotes the meaning conferred upon it by mind. See *Philosophy of Mind*, §458, 212.
153. Sense and meaning do not yet take the form of distinct verbal expressions, as they do with the canonical example of the evening and morning stars. The basic semiotic relation involves sense simply as the intuition that connotes a separate meaning, consisting of a general representation.
154. Hegel, *Philosophy of Mind*, §460, 277.
155. See Karl R. Popper and John C. Eccles, *The Self and Its Brain: An Argument for Interactionism* (London: Routledge, 1998), 110.
156. Jonas affirms this claim in *Phenomenon of Life*, 173ff.
157. Vygotsky describes how children first use names to indicate not concepts but "familiar families or whole groups of visual things connected by visual ties" (*Mind in Society*, 50). In *Thought and Language*, 92, Vygotsky notes an even more rudimentary early childhood usage of names, where the child takes the name as a property rather than a sign of an object. Of course, to begin with, names and words in general are "indistinguishable from all other stimuli" to the developing child rather than spontaneously playing the role of signs (*Thought and Language*, 102).
158. Only then will names possess what Vygotsky identifies as "the unit of verbal thought": "*word meaning*." See *Thought and Language*, 5.
159. For a discussion of the deficiency of Russell's theory, see Katharina Dulckeit, "Atomism, the Theory of Acquaintance, and the Hegelian Dialectic," in *Perspektiven der Philosophie*, *Neues Jahrbuch 1990*, vol. 16 (Amsterdam: Rodopi, 1990), 226.
160. Katharina Dulckeit exposes the problems of "Bertrand Russell's suspect semantic assumption that the meaning of a name must be *either* like a description (inside the head) *or* its intended referent (outside the head)" in her essay "Language, Objects, and the Missing Link: Toward a Hegelian Theory of Reference," in *Hegel and Language*, ed. Jere O'Neill Surber (Albany: SUNY Press, 2006), 152.
161. In her essay "Can Hegel Refer to Particulars?," in *The Phenomenology of Spirit Reader*: *Critical and Interpretative Essays*, ed. John Stewart (Albany: SUNY Press, 1998), 106, Dulckeit writes that "reference like knowledge, must be mediated. Thus, for instance, reference via description is mediated by the predicates assigned to the subject, while demonstrative reference is

mediated by the context within which speaker and referent are situated." As Dulckeit further notes, language "remains *abstractly universal*" unless "in its actual *use*, within a *context*, it accomplishes precisely what otherwise would be impossible: it *determines and thus universalizes the individual*, and in this way achieves the meeting between the universal (the word) and the individual (the object) which we will call 'reference'" (117–18).

162. Hegel, *Philosophy of Mind*, §446–9, 192–200; Hegel, *Werke* 10, §446–9, 246–56.
163. Hegel, *Philosophy of Mind*, §451–4, 201–6; Hegel, *Werke* 10, §451–4, 257–62.
164. Hegel, *Philosophy of Mind*, *Zusatz* to §457, 210–12; Hegel, *Werke* 10, *Zusatz* to §457, 269.
165. See Ludwig Wittgenstein, *Philosophical Investigations*, 3rd ed., trans. G. E. M Anscombe (New York: Macmillan, 1968), §293, 100e.
166. Hegel, *Philosophy of Mind*, §459–60, 213–18; Hegel, *Werke* 10, §459–60, 271–7.
167. It should be noted that Augustine offers his ostensive account of meaning in describing the "triangulation" of language learning, where one individual observes another naming some object. Foreshadowing Davidson's account of the intersubjective constitution of linguistic meaning, Augustine writes, "I grasped that the thing was called by the sound they uttered when they meant to point it out. Their intention was shown by their bodily movements, as it were the natural language of all peoples: the expression of the face, the play of the eyes, the movement of other parts of the body, and the tone of voice which expresses our state of mind in seeking, having, rejecting, or avoiding something. Thus, as I heard words repeatedly used in their proper places in various sentences, I gradually learnt to understand what objects they signified; and after I had trained my mouth to form these signs, I used them to express my own desires" (quoted by Wittgenstein in *Philosophical Investigations*, §1, 2e).
168. Wittgenstein acknowledges, as would Davidson, that Augustine's account of meaning has its place in a primitive form of language restricted to denoting things but not as a general theory of how meaning is determined in a fully developed language (see *Philosophical Investigations*, §2, 3e). Wittgenstein suggests that such primitive language forms are used by children in first learning to talk, "when the child cannot yet *ask* what the name is" (§5, 4e). Wittgenstein notes that "this ostensive teaching of words can be said to establish an association between the word and the thing" but leaves unspecified what that association might further signify in the enriched context of language games (§5, 4e). That demonstrative reference can hardly fix any individual meaning is shown by Hegel in his account of sense-certainty in the *Phenomenology of Spirit*. As Hegel there observes, "this," "here," "now," and "I" have no exclusive reference but apply universally to any "this," "here," "now," and "I."
169. Plato, *Sophist*, 262c–d, in *Complete Works*, 286.
170. Popper observes that these features are the distinguishing characteristics of language rather than either expression or communication, which nonverbal signaling can accomplish. See Popper and Eccles, *Self and Its Brain*, 59
171. As Fodor observes, two fatal consequences are here entailed: first, since a term cannot be used unless its user already possesses the concept it expresses, the concept *water* is needed to baptize the word "water"; secondly, no word can be inaugurated into a language unless that language already has words that express what the word means. The baptism of the word is thus no

baptism at all, for it must presuppose what it attempts to introduce. See Jerry Fodor, "What Is Universally Quantified and Necessary and A Posteriori and It Flies South in the Winter?," *Proceedings and Addresses of the American Philosophical Association* 80, no. 2 (November 2006): 14–15.

172. Vygotsky, *Thought and Language*, 7.
173. Vygotsky, *Thought and Language*, 8.
174. As Konrad Lorenz points out, "the animal, in all these sounds and movements expressing its emotions, has in no way the conscious intention of influencing a fellow-member of its species. This is proved by the fact that even geese or jackdaws reared and kept singly make all these signals as soon as the corresponding mood overtakes them. Under these circumstances the automatic and even mechanical character of these signals becomes strikingly apparent and reveals them as entirely different from human words." See Konrad Lorenz, *King Solomon's Ring* (Abingdon, UK: Routledge, 2002), 74.
175. See Lorenz, *King Solomon's Ring*, 73.
176. Plato, *Sophist*, 262c–d, in *Complete Works*, 286. The Visitor there observes that "the simplest and smallest kind of speech, I suppose – would arise from that first weaving of name and verb together. ... When someone says 'man learns' ... he gives an indication about what is, or comes to be, or has come to be, or is going to be. And he doesn't just name, but *accomplishes something*, by weaving verbs with names. That's why we said he speaks and doesn't just name."
177. Popper and Eccles, *Self and Its Brain*, 59.
178. Aristotle, *Politics*, book I, ch. 2, 1253a9–18.
179. As Vygotsky notes, any study of language that proceeds by analyzing it into separate elements tends to dissociate its communicative function from its intellectual function, as if they were separate and not interrelated, "yet word meaning is a unity of both these functions of speech." See *Thought and Language*, 6–7.
180. Hegel, *Philosophy of Mind*, §461, 219.
181. As Bergson notes, it is the condition of name-retentive memory that determines whether one can apprehend what one hears to be speech. An individual may thus suffer from aphasia, an inability to understand words spoken in his or her own language, because an intact sense of hearing must be supplemented by undamaged verbal memory to overcome "word deafness." See *Matter and Memory*, 133–5.
182. Bergson connects verbal recognition with not just word retention but the "nascent muscular sensations, the *motor diagram*, as it were, of the speech we hear," claiming that otherwise there is no explanation for how intelligence retrieves the correct name to associate with the sensory stimuli it confronts, as well as for how intelligence can recognize a name spoken in a different pitch or timbre by different voices (*Matter and Memory*, 135–6, 139–40). Bergson's "solution" is little help, since the same problem could be raised concerning which motor diagram is invoked and which name representation it occasions. The problem is a false one, for verbal recall is just as automatic as habit formation, requiring only some sufficiently similar elicitation.
183. See Hegel, *Philosophy of Mind*, §461, 219.
184. Bergson describes the generalized (spoken) representation of the name as "the auditory image of a word ... constructed by an active memory which

extracts the resemblance of several complex sounds and only retains, as it were, their common diagram," removing the necessity that in one's memory "there must be of one and the same word, thousands of distinct images" (*Matter and Memory*, 147–8).

185. Hegel alludes to this development by describing the reproduced name as the *factor* (*die Sache*), as it is present in the realm of representation. Hegel introduces the factor in the logic of objectivity as the reality that is conceptually determinate and therefore the genuine object of reason. This rational nature of the factor becomes exhibited in names when their meaning is determined through their relation to one another, constituting a fabric of words building the psychological medium of thought. In so doing, their verbal network can comprise the mental reality in which concepts are manifest to oneself and others. See *Philosophy of Mind*, *Zusatz* to §461, 219.
186. See Hegel, *Philosophy of Mind*, §460, 219.
187. Hegel, *Philosophy of Mind*, *Zusatz* to §461, 220.
188. Hegel, *Philosophy of Mind*, *Zusatz* to §461, 219. Names, most broadly considered, are words that could be said to name not just intuited objects and their representations but purely verbal relations of names as well.
189. Hegel, *Philosophy of Mind*, *Zusatz* to §462, 220.
190. This will enable thought to surmount representation. In this connection Žižek observes that "names in 'representational language' possess a fixed universal content determined not by their relationship to other names but by their relationship to represented reality." See Slavoj Žižek, *Interrogating the Real* (London: Continuum, 2005), 195–6. When words express a universality that develops itself in the propositional language of judgment, inference, and systematic philosophical argument, it will verbally express the autonomous thought able to lay hold of objectivity as it is determined in and through itself.
191. Hegel, *Philosophy of Mind*, *Zusatz* to §461, 220.
192. Hegel, *Philosophy of Mind*, *Zusatz* to §462, 220.
193. Hegel, *Philosophy of Mind*, *Zusatz* to §463, 222.
194. Hegel, *Philosophy of Mind*, *Zusatz* to §463, 222.
195. Hegel, *Philosophy of Mind*, *Zusatz* to §463, 222.
196. Hegel calls this capacity "highly wonderful" in *Philosophy of Mind*, *Zusatz* to §463, 222.
197. Hegel, *Philosophy of Mind*, *Zusatz* to §463, 222.
198. Hegel, *Philosophy of Mind*, *Zusatz* to §463, 222.
199. Because, however, mechanical memorization involves an ordering that is not inherent in its words but depends solely on rote intelligence, it still lacks the unity of form and content constitutive of the autonomy of thought.
200. Hegel, *Philosophy of Mind*, §464, 223.
201. Hegel, *Philosophy of Mind*, §464, 223.
202. For this reason, Hegel can claim that the factor (*die Sache*), the proper object of thought, is the content devoid of any opposition to subjective inwardness. Thought exhibits the subject-object identity of the conceptually determinate reality of the factor because thought has an externality whose objectivity is no less enclosed within the space of intelligence. See *Philosophy of Mind*, §464, 223.

4 The Constitution of Linguistic Intelligence

1. As Davidson observes with regard to the formation of concept and words through "shared external promptings," "for any triangulation to work, the creatures involved must be very much alike. They must class together the same distal stimuli, among them each other's reactions to those stimuli. In the end, it is just this double sharing of propensities that gives meaning to the idea of classing things together." Donald Davidson, *Problems of Rationality* (Oxford: Oxford University Press, 2004), 143.
2. How this is so will confirm Davidson's claim (*Problems of Rationality*, 143) that the ability "to understand the speech and thoughts of another … is basic to our sense of a world independent of ourselves, and hence to the possibility of thought itself." The sense of world independence at issue is not just that of consciousness, which can confront objects without speech, but the judgment of intelligence that there is an objective world. As the account of the origin of language will show, unless individuals could be conscious of objects, their own selves, and one another without already conversing, they could not establish language or learn the preestablished language of the community in which they are raised.
3. As we have seen, Aristotle emphasizes this last connection in the *Politics*, book I, ch. 2, 1253a9–18, writing that "man is the only animal who has the gift of speech. And whereas mere voice is but an indication of pleasure or pain, and is therefore found in other animals (for their nature attains to the perception of pleasure and pain and the intimation of them to one another, and no further), the power of speech is intended to set forth the expedient and inexpedient, and therefore likewise the just and the unjust. And it is characteristic of man that he alone has any sense of good and evil, of just and unjust, and the like, and the association of living beings who have this sense makes a family and a state."
4. Chomsky underscores the fundamental distinction between grammar and the serial order of words by maintaining that a fundamental feature of the syntax of any language is its "structure dependence," which is something more than the mere sequence of words. See, e.g., Noam Chomsky, *Reflections on Language*, 32, 78–9, in Noam Chomsky, *On Language* (New Delhi: Penguin Books India, 2003).
5. For a discussion of how and why these types of predication comprise the four forms of judgment, see Richard Dien Winfield, *From Logic to Concept: Thinking Through Hegel's Subjective Logic* (Aldershot: Ashgate, 2006), 89–105.
6. As Robert Berman has pointed out in conversation, H. L. A. Hart gives a classic account of the distinction between habit and social rules in *The Concept of Law* (Oxford: Oxford University Press, 1961), 55: "When a habit is general in a social group, this generality is merely a fact about the observable behavior of most of the group. In order that there should be such a habit no members of the group need in any way think of the general behavior or even know that the behavior in question is general; still less need they strive to teach or intend to maintain it. By contrast, if a social rule is to exist some at least must look upon the behavior in question as a general standard to be followed by the group as a whole. A social rule has an 'internal' aspect, in addition to the external aspect which it shares with a social habit. … This internal aspect of rules may be simply illustrated from the rules of any game."

7. As Lorenz observes, the "purely innate signal code of an animal species differs fundamentally from human language, every word of which must be learned laboriously." Konrad Lorenz, *King Solomon's Ring*, trans. Marjorie Kerr Wilson (Abingdon: Routledge, 2002), 74.
8. As Popper writes, "The capacity to learn a language – and even a strong need to learn a language – is, it appears, part of the genetic make-up of man. By contrast, the actual learning of a particular language, though influenced by unconscious inborn needs and motives, is not a gene-regulated process and therefore not a natural process, but a cultural process." See Karl R. Popper and John C. Eccles, *The Self and Its Brain: An Argument for Interactionism* (London: Routledge, 1998), 48.
9. Exceptions include reported instances of particular whale pods that have their own "songs," birds that imitate the songs of other species with which they interact, and cases where parrots and apes have been taught by humans to communicate using nonnatural signals. Perhaps the most familiar examples are found in the behavior of domesticated animals. As Lorenz observes (*King Solomon's Ring*, 79), "the intelligible actions of" your "dog are not innate but are individually learned and governed by true insight. Every individual dog has different methods of making himself understood by his master. ..." Nonetheless, as Herder notes, "The dog has learned to understand many words and commands, but not as words, only as signs associated with gestures and actions. Were he ever to understand a single word in the human sense, he would no longer serve, but create for himself his art, his society, and his language." See Johann Gottfried Herder, *Essay on the Origin of Language*, in Jean-Jacques Rousseau and Johann Gottfried Herder, *On the Origin of Language: Two Essays*, trans. by John H. Moran and Alexander Gode (Chicago: University of Chicago Press, 1966), 126. Herder similarly disputes the linguistic ability of imitative birds: "Parrots and starlings have learned enough human sounds; but have they ever thought a human word?" (*Essay on the Origin of Language*, 126).
10. Some of Noam Chomsky's most recent invocations of a biological "language faculty" are found in "The Dewey Lectures 2013: What Kind of Creatures Are We?," *Journal of Philosophy* 40, no. 12 (December 2013): 647, 651, 672.
11. In this connection, Hobbes observes that "the signification that does occur when animals of the same kind call to one another, is not on that account speech, since not by their will, but out of the necessity of nature, these calls by which hope, fear, joy, and the like are signified, are forced out by the strength of these passions." Thomas Hobbes, *Man and Citizen*, trans. Charles T. Wood, T. S. K. Scott-Craig, and Bernard Gert (Garden City, NY: Doubleday, 1972), 37.
12. So Lorenz notes, "in human behavior, too, there are mimetic signs which automatically transmit a certain mood and which escape one, without or even contrary to one's intention of thereby influencing anybody else: the commonest example of this is yawning" (*King Solomon's Ring*, 74).
13. Lorenz observes that "all expressions of animal emotions ... are therefore not comparable to our spoken language, but only to those expressions such as yawning, wrinkling the brow and smiling, which are expressed unconsciously as innate actions and also understood by a corresponding inborn mechanism" (*King Solomon's Ring*, 75).

14. As Chomsky observes, "Each known animal communication system either consists of a fixed number of signals, each associated with a specific range of eliciting conditions or internal states, or a fixed number of 'linguistic dimensions,' each associated with a nonlinguistic dimension in the sense that selection of a point along one indicates a corresponding point along the other. In neither case is there any significant similarity to human language." See Noam Chomsky, *Cartesian Linguistics: A Chapter in the History of Rationalist Thought* (New York: Harper and Row, 1966), 78.
15. Chomsky underscores this "'creative aspect' of ordinary language use – its property being both unbounded in scope and stimulus free" (*Cartesian Linguistics*, 4–5). This creative aspect of language use is what constitutes "the fundamental distinction between human language and the purely functional and stimulus-bound animal communication systems" (9).
16. Chomsky, "Dewey Lectures 2013," 649.
17. Popper makes this point, writing "that in choosing to speak, and to take interest in speech, man has chosen to evolve his brain and his mind; that language, once created, exerted the selection pressure under which emerged the human brain and the consciousness of self" (Popper and Eccles, *Self and Its Brain*, 13).
18. Immanuel Kant, *Groundwork of the Metaphysic of Morals*, trans. H. J. Paton (New York: Harper and Row, 1964), 62–3.
19. As Vygotsky writes (*Thought and Language*, 94–5), "Verbal thought is not an innate, natural form of behavior, but is determined by a historical-cultural process and has specific properties and laws that cannot be found in the natural forms of thought and speech. ... The problem of thought and language thus extends beyond the limits of natural science and becomes the focal problem of historical human psychology, i.e. of social psychology." That this is so, however, does not render thought historically or culturally relative. The creative generative plasticity of language and the logical self-determined character of universality together enable thought to be free rather than conditioned by any historical or cultural circumstances.
20. Donald Davidson still takes this to mean that the conditions of meaning are essentially tied to the conditions of truth, rendering linguistic convention a transcendental condition of knowledge. For a detailed critical discussion of the pitfalls of Davidson's view, see Richard Dien Winfield, *Hegel and Mind: Rethinking Philosophical Psychology* (Houndmills: Palgrave Macmillan, 2010), 123–44.
21. All these points are quickly introduced by Hegel in the opening pages of the introduction to his *Science of Logic*. See G. W. F. Hegel, *Science of Logic*, trans. A. V. Miller (New York: Humanities Books, 1976), 43–4.
22. Winfield, *From Logic to Concept*.
23. Richard Dien Winfield, *Hegel's Science of Logic: A Critical Rethinking in Thirty Lectures* (Lanham, MD: Rowman and Littlefield, 2012).
24. Herder, *Essay on the Origin of Language*, 127. Herder also asserts of "recognition of a thing" and "the naming of it – deep in soul the two actions are one" (127). By itself, however, naming supplies just a general representation, whereas propositional speech can supply the *concept* of a thing.
25. So Herder writes that "in more than one language, word and reason, concept and word, language and cause have hence one designation" (*Essay on the*

Origin of Language, 127) and that "not even the least use of reason, not even the simplest distinct recognition, not even the most primitive judgment of human reflection is possible without a distinguishing mark," which becomes "an inner characteristic word: so that ... not even the first and most primitive application of reason was possible without language" (120).

26. Hegel distinguishes between propositions and judgment in his *Science of Logic*, noting that "though a proposition has a subject and predicate in the grammatical sense, this does not make it a judgement. The latter requires that the predicate be related to the subject as one Notion determination to another, and therefore as a universal to a particular or individual. If a statement about a particular subject only enunciates something individual, then this is a mere proposition. For example, 'Aristotle died at the age of 73, in the fourth year of the 115th Olympiad,' is a mere proposition, not a judgement" (*Science of Logic*, 626). Accordingly, he points out, "the difference between proposition and judgement is mainly that in the former the *content* constitutes the *relation* itself or is a *specific relation*. The judgement, on the contrary, transfers the content to the predicate as a universal determinateness which is for itself and is distinct from its relation, the simple copula. When a proposition is to be converted into a judgement, then the specific content – if, for example, it is a verb – is changed into a participle, in order to separate in this way the determination itself and its relation to a subject" (*Science of Logic*, 410).
27. E.g., the subject and its predication in a proposition may both be individual, as in "Aristotle is the greatest student of Plato."
28. Arendt writes that "no language has a ready-made vocabulary for the needs of mental activity; they all borrow their vocabulary from words originally meant to correspond either to sense experience or to other experiences of ordinary life." See Hannah Arendt, *The Life of the Mind* (New York: Harcourt, 1978) 102. Nonetheless, this same vocabulary can be appropriated for thinking through the word meaning transformations that propositional discourse entails.
29. As we shall see, this development in word meaning plays a crucial role in language learning, a role that Vygotsky has drawn into focus.
30. Davidson, however, takes it as a "fact that the structure of language mirrors the structure of propositional thought" (*Problems of Rationality*, 139).
31. The assumption of a congruence between thought and grammar has hindered linguistic investigation. As Chomsky observes, "the failure to formulate rules of sentence construction in a precise way ... was a consequence of the express assumption that the sequence of words in a sentence corresponds directly to the flow of thought" (*Cartesian Linguistics*, 18).
32. Rousseau seems to uphold this view; he maintains that "as soon as one man was recognized buy another as a sentient, thinking being similar to himself, the desire or need to communicate his feelings and thoughts made him seek the means to do so" (*On the Origin of Languages*, 5). Rousseau, however, equally notes that "the inventors of language did not proceed rationally in this way; rather their instinct suggested the consequence to them" (5).
33. As Chomsky observes, "human language, being free from control by identifiable external stimuli or internal physiological states, can serve as a general instrument of thought and self-expression rather than merely as a communicative device of report, request, or command" (*Cartesian Linguistics*, 11–12).

The freedom of semiotic imagination paves the way for these features of propositional discourse.

34. Vygotsky (*Thought and Language*, 68) notes that "the most important fact uncovered through the genetic study of thought and speech is that their relation undergoes many changes. Progress in thought and progress in speech are not parallel. ... This applies to both phylogeny and ontogeny." In the discussion that follows (68ff.), Vygotsky describes the "prelinguistic phase of thought development," in which apes make "inventions" and use tools to solve problems within their field of vision. Such "thought development" remains within the domain of imagination and its associations of figurative general representations.
35. Vygotsky, *Thought and Language*, 80.
36. Vygotsky, *Thought and Language*, 80–3.
37. When Vygotsky insists that "there is a vast area of thought that has no direct relation to speech," he offers as examples "the thinking manifested in the use of tools" and the mechanical memorization expressed in the rote recital of a poem (*Thought and Language*, 88). The former, as we have seen, only needs general representations, whereas the latter involves no positive conceptual determination.
38. Rousseau, *On the Origin of Languages*, 6.
39. In addition, Keller may have retained some of the memories of sights and sounds as well as some of the communicative motor skills she had developed in her first 19 months, before the onset of her blindness and deafness.
40. Rousseau accordingly maintains that "since gestures can indicate little more than present or easily described objects and visible actions; since they cannot be used at all times, for darkness or the interposition of an object makes them useless, ... men eventually thought of replacing them with articulate vocal sounds, which, though lacking the same relation to certain ideas, are better able to express all ideas as conventional signs." See Jean-Jacques Rousseau, *Discourse on the Origin and Basis of Inequality among Men*, in *The Essential Rousseau*, trans. Lowell Bair (New York: Meridian Books, 1983), 159.
41. Rousseau asserts, "the successive impressions of discourse, which strike a redoubled blow, produce a different feeling from that of the continuous presence of the same object, which can be taken in at a single glance. ... [W]hile visible signs can render a more exact imitation, sounds more effectively arouse interest" (*On the Origin of Languages*, 8–9).
42. Herder, *Essay on the Origin of Language*, 129.
43. Herder, *Essay on the Origin of Language*, 131–2. Herder maintains, "the first vocabulary was thus collected from the sounds of the world" (132).
44. Herder, *Essay on the Origin of Language*, 135.
45. Herder, *Essay on the Origin of Language*, 142.
46. Herder, *Essay on the Origin of Language*, 143.
47. Herder, *Essay on the Origin of Language*, 142.
48. Herder, *Essay on the Origin of Language*, 142.
49. For a detailed account of how this is so, see Richard Dien Winfield, *The Living Mind: From Psyche to Consciousness* (Lanham, MD: Rowman and Littlefield, 2011), 150–221.
50. Luria cites "the Sapir-Whorf hypothesis: linguistic features have an impact on perception, and on color perception in particular" and describes empirical

research showing that "when a language had only one name for blue and green, these colors were often confused." See A. R. Luria, *Cognitive Development: Its Cultural and Social Foundations*, trans. Martin Lopez-Morillas and Lynn Solotaroff (Cambridge, MA: Harvard University Press, 1976), 22–3.

51. For an account of how beauty and aesthetic reception revolves around the unity of individual configuration and universal significance, see Richard Dien Winfield, *Systematic Aesthetics* (Gainesville: University Press of Florida, 1995), 78–91, 191–201.
52. Luria observes, "Once we recognize that perception is a complex cognitive activity employing auxiliary devices and involving the intimate participation of language, we must radically alter the classical notions of perception as an unmediated process depending only on the relatively simple laws of natural science" (*Cognitive Development*, 23). What Luria fails to acknowledge is that prelinguistic perception itself involves distinctly psychological aspects that are not reducible to the simple laws of efficient causality of natural science.
53. Saint Augustine, *Confessions*, trans. R. S. Pine-Coffin (Harmondsworth: Penguin Books, 1979), 216, 217, 218, 222, 230–1.
54. Augustine, *Confessions*, 217. Augustine notes (*Confessions* 219) that "memory also contains innumerable principles and laws of numbers and dimensions…. the words by which their meaning is expressed…are one thing and the principles another…. the principles…are not language at all.…We know them simply by recognizing them inside ourselves without reference to any material object." Nonetheless, that recognition still occurs only through the words in which thought must be formulated. This applies to Augustine's further confession that "I can speak of numbers which we use in counting, but it is the numbers themselves, not their images, which are present in my memory" (*Confessions*, 222).
55. Aristotle writes that "the act of recollecting differs from that of remembering, not only in respect of time, but also in this, that many also of the other animals have memory, but, of all that we are acquainted with, none, we venture to say, except man, shares in the faculty of recollection. The cause of this is that recollection is, as it were, a mode of inference. For he who endeavours to recollect infers that he formerly saw or heard, or had some such experience, and the process is, as it were, a sort of investigation. But to investigate in this way belongs naturally to those animals alone which are also endowed with the faculty of deliberation; for deliberation is a form of inference." See *On Memory*, 453a6–14, in *The Complete Works of Aristotle*, I, 719–20.
56. As we have seen, Vygotsky emphasizes this point, writing, "Verbal thought is not an innate, natural form of behavior, but is determined by a historical-cultural process and has specific properties and laws that cannot be found in the natural forms of thought and speech.…The problem of thought and language thus extends beyond the limits of natural science and becomes the focal problem of historical human psychology, i.e., social psychology" (*Thought and Language*, 94–5).
57. As Rousseau puts it, "if men needed speech in order to learn to think, they had a still greater need to be able to think in order to acquire the ability to speak; and even if we understood how vocal sounds came to be taken as conventional expressions of some ideas, we would still have to determine what the conventional expressions may have been for ideas which, having

no perceptible objects, would not be indicated by either gestures or voice. We are therefore scarcely able to form tolerable conjectures concerning the art of communicating thoughts and establishing intercourse between minds" (*Discourse on the Origin*, 158).

58. Rousseau writes, "Since men had no dealings with one another, and no need to have any, we cannot understand what induced them to invent language or how it was possible for them to do so, if it was not necessary" (*Discourse on the Origin*, 157).
59. Rousseau notes, "I might say, with many others, that language was born of the domestic intercourse among fathers, mothers, and children. But ... in that primitive state man had no houses, huts, or property of any kind, so that ... males and females came together fortuitously, according to chance encounters, opportunities, and desire, with no need of words to express what they had to communicate to each other" (*Discourse on the Origin*, 157).
60. Rousseau suggests that "since the child had to communicate all his needs to his mother, and therefore had more to say to her than she to him, it must have been he who contributed most to the invention of speech, and the language he used must have been largely of his own devising, so that there were as many languages as individuals who spoke them. This diversity was also maintained by men's wandering, vagabond life, which gave no language time to solidify" (*Discourse on the Origin*, 158). A language of one individual is a language in name only, since it lacks the shared practice on which linguistic norms depend.
61. As Rousseau writes, "I leave this difficult question to anyone who may undertake to discuss it: 'Which is the more necessary assumption: that language could not have been invented if society had not already been established, or that society could not have been established if language had not already been invented?'" (*Discourse on the Origin*, 161–2).
62. In *On the Origin of Languages* (5), Rousseau writes, "speech, being the first social institution, owes its form to natural causes alone."
63. As Rousseau writes (*On the Origin of Languages*, 5), "As soon as one man was recognized by another as a sentient, thinking being similar to himself, the desire or need to communicate his feeling and thoughts made him seek the means to do so. ... Hence the institution of sensate signs for the expression of thought. The inventors of language did not proceed rationally in this way; rather their instinct suggested the consequence to them."
64. Chomsky never tires of invoking such an infinitely generative biological "language faculty," most recently in "The Dewey Lectures 2013," 647, 651, 672.
65. For an account of why mind cannot be immaterial and unembodied, see Winfield, *The Living Mind*, 9–17.
66. Herder writes, "In order to be able to receive from the mouth of God the first word as a word, that is, as a characteristic sign of reason, man had to have reason and had to apply the same reflection to understand this word as a word as though he had thought it out himself in the first place" (*Essay on the Origin of Language*, 122).
67. The same question begging is committed by those who seek to explain the emergence of life on earth by appeal to visitors from outer space, be they microbes riding on comets or intelligent animals seeding our planet from their spaceships.

68. This is suggested by Saussure, for whom language "exists only by virtue of a sort of contract signed by the members of a community" (cited by Chomsky, "Dewey Lectures 2013," 648).
69. As Vygotsky observes, that illicit assumption of thought before language is made by those who claim that "the child suddenly discovers that speech has meaning. Such an explanation of how speech becomes meaningful truly deserves to be grouped with the theory of the deliberate invention of language" (*Thought and Language*, 61).
70. So Herder observes, "most ... have assumed a mere convention, an agreement, and against this Rousseau has spoken the most vehemently, for what an obscure term is this, a natural agreement of language? ... Least of all is it agreement, an arbitrary convention of society" (*Essay on the Origin of Language*, 118–19).
71. Hans Jonas makes this point in *The Phenomenon of Life* (Evanston, IL: Northwestern University Press, 2001), 42–4.
72. Evan Thompson describes the minimal structure of the autopoiesis of life in *Mind in Life: Biology, Phenomenology and the Sciences of Mind* (Cambridge, MA: Harvard University Press, 2007), 91–118.
73. See Winfield, *The Living Mind*.
74. See Descartes, "Meditation I," *Meditations on First Philosophy*, 3rd ed., trans. Donald A. Cress (Indianapolis: Hackett, 1993), where he makes these claims, completely oblivious to how thought goes together with language, undermining Cartesian dualism.
75. This is why Husserl, who identifies all mental activity with the oppositional intentionality of consciousness, admits that his phenomenological investigation can never be self-transparent, since every time one reflects on some act of consciousness, one's reflection can only be the object of some further reflection, and so on.
76. Kant's "Transcendental Deduction of the Categories" is intended to legitimate this claim.
77. For further discussion of this point, see Winfield, *The Living Mind*, 125–41.
78. How one can thus be conscious of oneself without language or thought is analyzed at length in Winfield, *The Living Mind*, 191–221. See also Winfield, *Hegel and Mind*, 59–77.
79. This, of course, is the crux of Wittgenstein's argument against private language, whose classic statement can be found in Ludwig Wittgenstein, *Philosophical Investigations*, trans. G. E. M. Anscombe (New York: Macmillan, 1958), §§259–74, 92e–95e.
80. Herder observes, "It would appear natural that the subjects should have preceded the predicates, that the simplest subjects should have preceded the composed ones, the thing that acts and does the acts and doings of it, essentials and certainties the uncertain and accidental." Yet he claims, "in our original languages it is clearly the very opposite that holds true ... the first vocabulary was ... collected from the sounds of the world. From every sounding being echoed its name. ... From the verbs it was that the nouns grew and not from the nouns the verbs. ... The child names the sheep, not as a sheep, but as a bleating creature, and hence makes of the interjection a verb" (*Essay on the Origin of Language*, 131–2). As noted, Herder's onomatopoetic account ignores how words are signs, with no intrinsic connection between the configuration of the name and what it signifies.

81. Chomsky discusses the role of "common sense understanding" and these other factual conditions in naming, without, however, distinguishing between a prepropositional and a propositional semantic situation (*Reflections on Language*, 45–6).
82. Rousseau writes, "We must assume that the first words that were used had a much broader meaning in men's minds than those employed in languages already formed, and that, since men did not know the division of discourse into its constituent parts, they first gave each word the meaning of an entire sentence" (*Discourse on the Origin*, 159).
83. Rousseau maintains that "general ideas can be introduced into the mind only with the aid of words, and the understanding can grasp them only by means of propositions. ... Therefore, if the inventors of language were able to give names only to ideas that they already had, it follows that the first substantives could only have been proper nouns" (*Discourse on the Origin*, 160–1).
84. As Vygotsky writes, "The primordial word by no means could be reduced to a mere sign of the concept. Such a word is rather a picture, image, mental sketch of the concept. ... That is why such a word has a "complex" character and may denote a number of objects belonging in one complex" (*Thought and Language*, 133).
85. Davidson's assertion that "triangulation" insures that conceptual determination, intersubjectivity, and objectivity go together thus can only apply when the meanings at stake are concepts, not just general representations, and the objectivity in question is not just commonly observed appearance, but an intrinsically determined totality. See Donald Davidson, *Subjective, Intersubjective, Objective* (Oxford: Oxford University Press, 2001), 129–30. Significantly, Davidson acknowledges "a prelinguistic, precognitive situation which seems to me to constitute a necessary condition for thought and language" and first describes triangulation in terms that he explicitly applies to dumb animals: "it is the result of a threefold interaction" where "each creature learns to correlate the reactions of other creatures with changes or objects in the world to which it also reacts. One sees this in its simplest form in a school of fish, where each fish reacts almost instantaneously to the motions of others. This is apparently a reaction that is wired in. A learned reaction can be observed in certain monkeys which make three distinguishable sounds depending on whether they see a snake, an eagle, or a lion approaching" (*Subjective, Intersubjective, Objective*, 128).
86. Herder says of language that, "without the art of usage, it is a simple dictionary." Hence the task of language formation is "to evolve somehow a grammar from what was no more than a vocabulary!" (*Essay on the Origin of Language*, 160, 161). Since dictionary definitions are propositions, language without grammar would not even be a dictionary but just lists of words.
87. See Vygotsky, *Thought and Language*, 92, 110–24.
88. In the same way, the finite human brain can contribute to what Darwin describes as distinguishing humanity from lower animals: our "almost infinitely larger power of associating together the most diversified sounds and ideas." Chomsky quotes this as an example of the concept of finite systems with infinite power, which he applies to generative grammar ("Dewey Lectures 2013," 646).

89. Davidson points to such devices as supplying "a further form of creativity," but notes that more is required to insure any matching of the potential infinity of sentences with objects. He claims that "the apparatus of pronouns and cross references," which is represented "by the symbolism of quantifiers and variables in elementary logic," provides a resource to "map names and predicates on to objects" (*Problems of Rationality*, 139–40).
90. Chomsky finds the basic property of language in how "each language provides an unbounded array of hierarchically structured expressions that receive interpretations at two interfaces: sensorimotor for externalization and conceptual-intentional for mental processes." Accordingly, "each language incorporates a computational procedure satisfying the Basic Property. Therefore a theory of language is by definition a generative grammar" ("Dewey Lectures 2013," 647).
91. As Chomsky writes, "we cannot conclude from the highly restrictive character of UG [Universal Grammar] that there is a translation procedure of any generality of significance, even in principle" (*Reflections on Language*, 30).
92. Chomsky, "Dewey Lectures 2013," 683.
93. Hobbes writes, in ch. 5 of *Leviathan*, that "When a man Reasoneth, hee does nothing else but conceive a summe total, from *Addition* of parcels; or conceive a Remainder from *Subtraction* of one summer from another. ... For Reason, in this sense, is nothing but Reckoning (that is, Adding and Subtracting) of the Consequences of general names agreed upon, for the *marking* and *signifying* of our thoughts." See Thomas Hobbes, *Leviathan*, ed. C. B. Macpherson (Harmondsworth: Penguin, 1968), 110, 111.
94. Chomsky, *Reflections on Language*, 33–4.
95. Chomsky describes universal grammar as "the system of principles which characterizes the class of possible grammars by specifying how particular grammars are organized" (*Language and Responsibility*, 180). Hence, "universal grammar is not a grammar, but rather a theory of grammars, a kind of metatheory or schematism for grammar" (183).
96. As Chomsky puts it, "a grammar is a system of rules and principles that generates an infinite class of sentences with their formal and semantic properties" (*Reflections on Language*, 41).
97. The result of grammatical processing is the so-called surface structure of language. The underlying "deep structure" that determines how the elements of grammatical speech become organized into the "surface structure" of intelligible sentences is not equivalent to universal grammar, since it also contains the contingent rules of particular grammar that distinguish the sentences of that language from those of others. Chomsky accordingly observes that deep structure should not be identified with universal grammar and "how ill-conceived it is to postulate innate deep structures" (*Language and Responsibility*, 171).
98. These are what Chomsky has in mind in identifying the three processes that grammatical language provides and make possible language acquisition: "the rules of the base (B), including rules of the categorical component and the lexicon, form initial phrase markers (IPM). The rules of the transformational component (T) convert these to surface structures (SS), which convert these to logical forms (LF) by certain rules of semantic interpretation" (*Reflections on Language*, 105).

99. Chomsky's recognition of this underdetermination of meaning by "deep structure" is what motivates his move from the "standard" to the "extended standard theory" of generative grammar. He acknowledges this in *Reflections on Language*, 81–2. By contrast, in *Cartesian Linguistics*, Chomsky still characterizes the deep structure of a sentence as "the underlying abstract structure that determines its semantic interpretation" and surface structure as "the superficial organization of units which determines the phonetic interpretation and which relates to the physical form of the actual utterance" (*Cartesian Linguistics*, 33).
100. On Chomsky's account, the Port-Royal theory of grammar regards the deep structure of language as consisting in a system of propositions that thereby "conveys the thought it expresses" (*Cartesian Linguistics*, 40). As Chomsky notes, "this account covers only the sentences based on judgments," which "although the principal form of thought, do not exhaust the operations of our spirit" (41). Despite the fact that "the real "logical form" of a sentence may be quite different from its surface grammatical form," "what is assumed is the existence of a uniform set of relations into which words can enter, in any language, these corresponding to the exigencies of thought" (44–5). Although not all language involves logical forms of thought, language cannot be discursive unless it provides the grammar for logical discourse.
101. See Kant, *Critique of Pure Reason*, A137/B176–A147/B187, 271–7.
102. Hegel has systematically developed the forms of judgment in his *Science of Logic*, 622–63. For a critical reconstruction of that account, see Richard Dien Winfield, *From Concept to Objectivity: Thinking Through Hegel's Subjective Logic* (Aldershot: Ashgate, 2006), 89–105.
103. Davidson privileges quantitative judgments, noting how objects cannot be thought unless language provides the grammar for quantification (*Problems of Rationality*, 140). This reflects the restrictive view of thought of most modern philosophy, which tends to ignore the universality of genus and species as well as the concrete universal.
104. For further development of this point, see Winfield, *From Concept to Objectivity*, 127–8.
105. For a critical reconstruction of the argument from being to determinacy, of which Hegel gives the first systematic treatment in his *Science of Logic*, see Winfield, *Hegel's Science of Logic*, 47–68.
106. Davidson, who asserts the holistic character of mind, denies any gradual emergence of thought and language (*Subjective, Intersubjective, Objective*, 124, 126–7). What he fails to recognize is that even if beliefs and conceptual meanings are holistically interconnected, they can arise in different stages, acquiring newly modified significance as the context of which they are part itself alters in the course of psychological and historical development.
107. Herder notes that when formerly isolated groups gathered together and "their languages streamed out into an ocean of vocabulary, the more synonyms there were" (*Essay on the Origin of Language*, 154).
108. See §4.6.2, "Stages in the development of inscribed language."
109. Herder, *Essay on the Origin of Language*, 159.
110. Herder acknowledges this connection in three theses: first, "The older and the more original languages are, the more is this analogy of the senses noticeable in their roots" (*Essay on the Origin of Language*, 147–8); second,

"The older and the more original languages are, the more the feelings intertwine in the roots of the words!" (148–9); and third, "The more original a language and the more frequently such feelings appear intertwined in it, the less is it possible for them to be subordinated to one another with precision and logic" (152–3). In sum, "the more original a language, the fewer its abstractions and the more numerous its feelings" (155).

111. Rousseau writes, "Figurative language was the first to be born. Proper meaning was discovered last. One calls things by their true name only when one sees them in their true form. At first only poetry was spoken; there was no hint of reasoning until much later" (*On the Origin of Languages*, 12).
112. Herder remarks, "What was said by so many of the Ancients, what in modern times has so often been repeated without understanding, derives from this its living reality: 'That poetry is older than prose!' For what was this first language of ours other than a collection of elements of poetry?" (*Essay on the Origin of Language*, 135).
113. Rousseau, *On the Origin of Languages*, 15.
114. Rousseau, *On the Origin of Languages*, 15.
115. Rousseau, *On the Origin of Languages*, 15.
116. "To the degree that needs multiply, that affairs become complicated, that light is shed, language changes its character. It becomes more regular and less passionate. It substitutes ideas for feelings. It no longer speaks to the heart but to reason. Similarly accent diminishes, articulation increases. Language becomes more exact and clearer, but more prolix, duller and colder" (Rousseau, *On the Origin of Languages*, 16).
117. Rousseau, *On the Origin of Languages*, 17–18, 38.
118. Rousseau, *On the Origin of Languages*, 48–9.
119. Rousseau, *On the Origin of Languages*, 46.
120. Rousseau, *On the Origin of Languages*, 47.
121. Rousseau, *On the Origin of Languages*, 73.
122. Rousseau, *On the Origin of Languages*, 73.
123. Whereas "the child's and the adult's words coincide in their referents but not in their meanings," Vygotsky notes, "identity of referent combined with divergence of meaning is also found in the history of languages" (*Thought and Language*, 131).
124. Vygotsky describes this process as follows: "Because a name is never a concept when it first emerges, it is usually both too narrow and too broad ... the result is a ceaseless struggle within the developing language between conceptual thought and the heritage of primitive thinking in complexes. The complex-created name, based on one attribute, conflicts with the concept for which it has come to stand. In the contest between the concept and the image that gave birth to the name, the image gradually loses out; it faces from consciousness and from memory, and the original meaning of the word is eventually obliterated" (*Thought and Language*, 132).
125. Some would claim that contemporary "primitive peoples" have a linguistic development that remains at the level of figurative representation. Vygotsky maintains that "primitive people think in complexes, and consequently the word in their languages does not function as a carrier of the concept but rather as a family name for a group of concrete objects belonging together, not logically, but factually" (*Thought and Language*, 129). He also affirms

that the "same kind of thinking is characteristic of schizophrenics, who regress from conceptual thought to a more primitive level" (129).

126. Luria, *Cognitive Development*.
127. Vygotsky describes the process of internalization as consisting in a series of transformations by which "*an operation that initially represents an external activity is reconstructed and begins to occur internally. … An interpersonal process is transformed into an intrapersonal one*" (*Mind in Society*, 56–7).
128. As Chomsky observes, "It is worth noting that externalization is rarely used. Most language use by far is never externalized. It is a kind of internal dialogue" ("Dewey Lectures 2013," 654).
129. Chomsky notes, "Sometimes full-formed expressions instantly appear internally, too quickly for articulators to be involved, and probably even instructions to them" ("Dewey Lectures 2013," 654).
130. Plato suggest this identity in the *Sophist* (263e, in Plato, *Complete Works*, 287), where the Visitor asks, "Aren't thought and speech the same, except that what we call thought is speech that occurs without the voice, inside the soul in conversation with itself?" Brann supports the Visitor's claim, observing that "human speech and thinking are, except for the fact of sensory utterance, identical." Eva Brann, *The Ways of Naysaying: No, Not, Nothing, and Nonbeing* (Lanham, MD: Rowman and Littlefield, 2001), 143.
131. Concerning the internal dialogue of unexpressed thought, Chomsky reports that "what introspection suggests – at least mine: what reaches consciousness is scattered fragments" ("Dewey Lectures 2013," 654).
132. Vygotsky, *Thought and Language*, 85.
133. Vygotsky, *Thought and Language*, 86. See also Jean Piaget, *The Psychology of Intelligence*, trans. Malcolm Piercy and D. E. Berlyne (New York: Routledge, 2001), 176–7.
134. Herder writes, "Parents never teach their children language without the latter, by themselves, inventing language along with them. Parents merely draw their children's attention to differences between things by means of certain verbal signs, and consequently they do not replace, but only facilitate and promote for them, the use of reason through language" (*Essay on the Origin of Language*, 121).
135. In *The Alex Studies: Cognitive and Communicative Abilities of Grey Parrots* (Cambridge, MA: Harvard University Press, 1999), Irene Maxine Pepperberg documents her limited success in teaching a grey parrot to use words to refer to and sort objects, identify functions, and make verbal connections.
136. Chomsky notes that "language acquisition is a matter of growth and maturation of relatively fixed capacities, under appropriate external conditions. The form of the language that is acquired is largely determined by internal factors; it is because of the fundamental correspondence of all human languages, because of the fact that 'der Mensch überall Eins mit dem Menschen ist' that a child can learn any language" (*Cartesian Linguistics*, 64–5).
137. Chomsky emphasizes this point in overly anthropocentric terms, writing that, "It is because of the virtual identity of this underlying system in speaker and hearer that communication can take place, the sharing of an underlying generative system being traceable, ultimately, to the uniformity of human nature" (*Cartesian Linguistics*, 71).

138. Chomsky writes that "we should abandon the notion of 'acceptance' of rules altogether, with the associated idea that rules are "chosen" and that we have reasons for these choices, as in Strawson's discussion. The rules of language are not accepted for certain reasons, but rather are developed by the mind when it is placed under certain objective conditions, much as the organs of the body develop in their predetermined way under appropriate conditions" (*Reflections on Language*, 76). It is important to recognize that the conditions of language acquisition involve not just biological endowments but conventional practices.
139. As Chomsky observes, "the learner has no 'reason' for acquiring the language; he does not choose to learn, and cannot fail to learn under normal conditions, any more than he chooses (or can fail) to organize visual space in a certain way – or, for that matter, any more than certain cells in the embryo choose (or can fail) to become an arm or the visual centers of the brain under appropriate environmental conditions" (*Reflections on Language*, 71).
140. Chomsky maintains that "communication is only one function of language and by no means an essential one" (*Reflections on Language*, 69). He further claims that "the fact that the rules of language are 'public rules,' this is, indeed, a contingent fact. It is a fact of nature that the cognitive structures developed by people in similar circumstances, within cognitive capacity, are similar, by virtue of their similar innate constitution. Thus we share rules of language with others as we share an organization of visual space with them" (*Reflections on Language*, 71–2).
141. Chomsky identifies "Cartesian linguistics" as the pioneering theory that recognizes how universal grammar is a condition of language acquisition. "The central doctrine of Cartesian linguistics," he writes, "is that the general features of grammatical structure are common to all languages and reflect certain fundamental properties of the mind. ... There are, then certain language universals that set limits to the variety of human language. ... Such universal conditions are not learned; rather they provide the organizing principles that make language learning possible, that must exist if data is to lead to knowledge" (*Cartesian Linguistics*, 56–60). That universal grammar has a psychological character does not, however, preclude how its activation depends upon interpersonal linguistic interaction.
142. See Chomsky, *Language and Responsibility*, 116–17, 180.
143. Michael B. Foster discusses the theological and metaphysical underpinnings of how Kepler operated in the article "Christian Theology and Modern Science of Nature: Part II: Differences between Modern and Ancient Rationalism," *Mind* 45, no. 177 (January 1936): 21.
144. See Chomsky, *Reflections on Language*, 29.
145. Chomsky writes, "we cannot conclude from the highly restrictive character of UG that there is a translation procedure of any generality or significance, even in principle" (*Reflections on Language*, 30).
146. As Chomsky rightly intones, "language acquisition is not a step-by-step process of generalization, association, and abstraction, going from linguistic data to the grammar, and that the subtlety of our understanding transcends by far what is presented in experience" (*Language and Responsibility*, 180).

147. As Chomsky notes, "a generative grammar can be described neither as a fabric of sentences and stimuli associated by conditioning, nor as a complex of dispositions to respond" (*Reflections on Language*, 199).
148. Chomsky takes Quine to task on these grounds, writing, "If a child learns most of language by hearing and emulation, and – as Quine elsewhere insists – learning a language is a matter of learning sentences, then a child must learn most of his sentences by hearing and emulation. But this is so grossly false that one can only wonder what Quine may have in mind, particularly since elsewhere he observes correctly that a language is an infinite system characterized by a generative grammar, and further, that conditioning, induction, and ostension do not suffice for language learning" (*Reflections on Language*, 193).
149. Chomsky observes that "individuals in a speech community have developed essentially the same language. This fact can be explained only on assumption that these individuals employ highly restrictive principles that guide the construction of grammar. Furthermore, humans are, obviously, not designed to learn one human language rather than another; the system of principles must be a species property" (*Reflections on Language*, 11). As noted above, that system must be not just a species property but a common possession of all discursive individuals, be they human or not.
150. As Vygotsky notes, "in learning a new language, one does not return to the immediate world of objects and does not repeat past linguistic developments, but uses instead the native language as a mediator between the world of objects and the new language" (*Thought and Language*, 161).
151. Chomsky recounts that "Cordemoy … describes acquisition of a second language as merely a matter of assigning new linguistic expressions to the ideas that are already associated with expressions of the first language. It follows that there should be no fundamental difficulty in translating from one language to another" (*Cartesian Linguistics*, 96).
152. "The study of how a system is learned," Chomsky observes, "cannot be identified with the study of how it is taught, nor can we assume that what is learned has been taught" (*Reflections on Language*, 161).
153. Vygotsky notes that "the acquisition of a foreign language differs from the acquisition of the native one precisely because it uses the semantics of the native language as its foundation" (*Thought and Language*, 159–60). It should be added that foreign language acquisition also makes use of the syntax of the native language and the thinking it makes possible.
154. When instructed in a foreign language, "the child's approach to language becomes more abstract and generalized … the acquisition of a foreign language liberates him from the dependence on concrete linguistic forms and expressions" (*Thought and Language*, 160).
155. As Vygotsky observes, "to learn a foreign language at school and to develop one's native language involve two entirely different processes. While learning a foreign language, we use word meanings that are already well developed in the native language and only translate them; the advanced knowledge of one's own language also plays an important role in the study of the foreign one" (*Thought and Language*, 159).
156. Chomsky makes two simplifying assumptions in his account of language acquisition: (1) individuals of the same species "are essentially identical with

respect to their ability to learn," and (2) learning can be conceptualized as an instantaneous process" (*Reflections on Language*, 14–15). He admits that the "assumption that learning is instantaneous is obviously false" (119), but he argues that "if character of LT [the learning theory] depends significantly on grammars ... already attained, then we should expect substantial differences in result of language learning ... but we do not find this" (121). Rather "it seems that the cognitive structure attained – the grammar – does not vary much ... there are striking uniformities in steady state attained, through wide variation in conditions of learning. These facts suggest that the initial idealization, with its falsifying assumption about instantaneous extensional learning, was nevertheless a legitimate one" (122). These same facts can better be interpreted as confirming how the linguistic data to which children in the same linguistic community are exposed exhibits as much similarity as the innate language capabilities that they possess in common, vitiating the need for the simplifying assumption of instantaneous language acquisition.

157. Chomsky points out that humans are as "specifically adapted to acquire grammar and common sense, as they are adapted to walk and not to fly" (*Reflections on Language*, 144–5). Unlike scientific knowledge, such as physics, acquired through conscious research and instruction, "grammar and common sense are acquired by virtually everyone effortlessly, rapidly, in a uniform manner, merely by living in a community under minimal conditions of interaction, exposure, and care" (145). As he notes, the "properties that distinguish grammar and common sense from knowledge of physics on the other hand" support rejecting "the hypothesis that there is a general learning theory, common to all organisms, undifferentiated in a single organism with respect to cognitive domain" (159). Given these properties, common sense can be considered "a system of rules and principles concerning the organization and behavior of objects" that is "operative as an innate schematism," which is "unconscious, no doubt, and inaccessible to introspection" (162, 163).
158. Vygotsky notes that the word "appears long before the child's crucial 'discovery of language' and before he is capable of logical operations" (*Thought and Language*, 65).
159. Vygotsky reports that "studies of normal children ... have found ... that the discovery by the child of the tie between word and object does *not* immediately lead to a clear awareness of the symbolic relation of sign and referent ... the word for a long time appears to the child as an attribute or property of the object rather than as a mere sign. ... [T]he child grasps the external structure object-word before he can grasp the internal relation sign-referent" (*Thought and Language*, 61).
160. "The active search for words on the part of the child, which has no analogy in the development of 'speech' in animals, indicates a new phase in his development" (Vygotsky, *Thought and Language*, 62). Vygotsky describes "the child's sudden, active curiosity about words, his question about every new thing, 'What is this?'" as if it were the "crucial instant, when speech begins to serve intellect, and thoughts begin to be spoken" (82). The "thoughts" in question cannot yet be imageless when naming first proceeds, but when questions are posed, propositional speech has already begun, allowing thoughts to be formulated.

161. As Davidson notes, "ostension has an obvious limitation: in our whole lives we can be exposed to no more than some finite number of examples." Donald Davidson, *Truth, Language, and History: Philosophical Essays* (Oxford: Clarendon Press, 2005), 259.
162. Aristotle, *Physics*, book I, ch. 1, 184b10, *The Complete Works of Aristotle*, ed. Jonathan Barnes (Princeton, NJ: Princeton University Press, 1984), I, 315.
163. Vygotsky observes that "language arises initially as a means of communication between the child and the people in his environment. Only subsequently, upon conversion to inner speech, does it come to organize the child's thought, that is, become an internal mental function" (*Mind in Society*, 89).
164. As Vygotsky notes, "Children, with the aid of speech, create greater possibilities than apes can accomplish through action. ... In the process of solving a task the child is able to include stimuli that do not lie within the immediate visual field. Using words (one class of such stimuli) to create a specific plan, the child achieves a much broader range of activity ... speech not only facilitates the child's effective manipulation of objects but also controls the child's own behavior. Thus, with the help of speech, children, unlike apes, acquire the capacity to be both the subjects and objects of their own behavior" (*Mind in Society*, 26).
165. Vygotsky reports that "the *relative amount of egocentric speech*, as measured by Piaget's methods, increases in relation to the difficulty of the child's task" (*Mind in Society*, 27).
166. As Vygotsky observes, "when children develop a method of behavior for guiding themselves that had previously been used in relation to another person, when they organize their own activities according to a social form of behavior, they succeed in applying a social attitude to themselves. The history of the process of *the internalization of social speech* is also the history of the socialization of children's practical intellect" (*Mind in Society*, 27).
167. As Vygotsky observes, "the two forms, communicative and egocentric, are both social, though their functions differ. Egocentric speech emerges when the child transfers social, collaborative forms of behavior to the sphere of inner-personal psychic functions" (*Thought and Language*, 35).
168. Vygotsky discusses and critiques Piaget's view of egocentric speech in *Thought and Language*, 35ff.
169. Vygotsky, *Thought and Language*, 87. This distinction "is manifested by the correct use of grammatical forms and structures before the child has understood the logical operations for which they stand" (87).
170. Referring to the "complexes" of general figurative representations, Vygotsky explains that the child "receives all elements of his complexes in a ready-made form, from the speech of others. He does not create his own speech, but acquires the speech of adults, which explains the coincidence between the child's complexes and the concepts of adults. ... But ... while coinciding in their final products, complexes and concepts are profoundly different in their intellectual operational structure" (*Thought and Language*, 122–3).
171. As Vygotsky observes, "The child may operate with subordinate clauses, with words like because, if, when, and but, long before he really grasps causal, conditional, or temporal relations" (*Thought and Language*, 87).

172. Vygotsky maintains that "the transition from thinking in complexes to thinking in concepts passes unnoticed by the child because his pseudoconcepts already coincide in content with adult concepts. Thus, the child begins to operate with concepts, to practice conceptual thinking, before he is clearly aware of the nature of these operations" (*Thought and Language*, 123–4). Nevertheless, only when that awareness is attained does the child practice conceptual thinking as a discursive intelligence.
173. Vygotsky (*Thought and Language*, 119) describes pseudoconcepts as a type of representational complex that phenotypically resembles the abstract adult concept, but is genetically dissimilar, since the child produces it to designate a collection of objects that also fall under an abstract concept. Whereas "only the functional equivalence of concepts and pseudoconcepts ensure a successful dialogue between the child and the adult" (123), Vygotsky notes, "the functional equivalence of complex and concept, the coincidence, in practice, of many word meanings for the adult and the three-year-old child, the possibility of mutual understanding, and the apparent similarity of their thought processes have led to the false assumption that all the forms of adult intellectual activity are already present in embryo in the child's thinking and that no drastic change occurs at the age of puberty" (121).
174. As Vygotsky observes, in connection with this transition to logical thinking, "it is the 'collision' of our thought with the thought of others that engenders doubt and calls for verification" (*Thought and Language*, 48).
175. This moment partly vindicates Vygotsky's claim that "in their ontogenetic development, thought and speech have different roots. ... Up to a certain point in time, the two follow different lines, independently of each other. ... At a certain point these lines meet, whereupon thought becomes verbal, and speech rational" (*Thought and Language*, 83). The "prelinguistic stage" of thought development to which Vygotsky alludes properly refers to the preconceptual activities of semiotic intelligence, which remains confined to the imagining of general figurative representations.
176. "At some point," writes Davidson (*Truth, Language, and History*, 259), "the difference between learning a new word and sharpening the use of a familiar word in the process of discussion disappears. After all, even in the learning situation the deviant learner deviates not from some abstract rule or norm but from what the teacher, and perhaps the rest of the community, agree on. ... A stubbornly deviant learner ... may have an insight into a deep similarity of cases that others have missed, and she may carry the community with her. This is exactly what Socrates does, or attempts to do, when he tries to persuade his companions to stop using the word 'just' to apply to acts in which someone returns harm for harm, and to apply it instead to acts that return benefit for harm."
177. Dennett makes this claim: "it's important to remember that speaking and writing are two entirely distinct innovations, separated by many hundreds of thousands (and maybe millions) of years, and that each has its own distinct set of powers." See Daniel C. Dennett, *Kinds of Minds: Toward an Understanding of Consciousness* (New York: Basic Books, 1996), 147.
178. Aristotle, *De Interpretatione*, 16a4–5, in *The Complete Works of Aristotle*, I, 25.

179. Hegel recognizes this but still affirms the primacy of vocal language: "In speaking of vocal (which is the original) language, we may touch, only in passing, upon written language – a further development in the particular sphere of language which borrows the help of an externally practical activity" (*Philosophy of Mind*, §459, 215). He also regards written language as most properly alphabetic: "[in] alphabetic writing … the two aspects occupy their rightful relation to each other: the visible language is related to the vocal only as a sign, and intelligence expresses itself immediately and unconditionally by speaking" (§459, 218).
180. Rousseau suggests that even an analphabetic written language could have arisen prior to spoken language, noting that in "a language … burdened with useless consonants, writing seems to have preceded speech" (*On the Origin of Languages*, 28). If, however, consonants symbolize vocal sounds (albeit ones that can be pronounced only in conjunction with some vowel that may not be indicated by the orthography), it is hard to see how such written language could function without issuing from spoken practice.
181. Plato, *Phaedrus*, 276a, in Plato, *Complete Works*, 553.
182. Plato, *Phaedrus*, 276a, 552.
183. Davidson concurs, in his own written words, maintaining that "writing reduces the number of active interpreters to one, the reader, thus eliminating the interaction of minds in which words can be bent and ideas progressively shaped. Writing may portray, but cannot constitute, the intersubjective exchanges in which meanings are created and firmed. Socrates was right: reading is not enough. If we want to approach the harder wisdom we must talk and, of course, listen" (*Truth, Language, and History*, 255).
184. See Davidson, *Truth, Language, and History*, 255.
185. As Vygotsky notes, "Unlike the teaching of spoken language, into which children grow of their own accord, teaching of written language is based on artificial training. … Instead of being founded on needs of children as they naturally develop and on their own activity, writing is given to them from without, from the teacher's hands" (*Mind in Society*, 105).
186. Vygotsky describes writing as a "second-order symbolism, which involves the creation of written signs for the spoken symbols of words" (*Mind in Society*, 115). It should be recognized that although hieroglyphs might qualify as symbols, alphabetic characters are not symbols but signs.
187. Vygotsky reports "that drawing begins in children when spoken speech has already made great process and has become habitual" (*Mind in Society*, 112). This is because "a major feature of this mode is a certain degree of abstraction, which any verbal representation necessarily entails. Thus we see that drawing is graphic speech that arises on the basis of verbal speech" (112).
188. "The gesture," notes Vygotsky, "is the initial visual sign that contains the child's future writing as an acorn contains a future oak" (*Mind in Society*, 107). He further observes that "the first drawings arise from gestures of the (pencil-equipped) hand, and the gesture constitutes the first representation of the meaning. Only later on does the graphic representation begin independently to denote some object" (110).
189. As Vygotsky explains, to create "written signs for the spoken symbols of words … the child must make a basic discovery – namely that one can draw

not only things but also speech. It was only this discovery that led humanity to the brilliant method of writing by words and letters; the same thing leads children to letter writing" (*Mind in Society*, 115).

190. Vygotsky maintains "that the written language of children develops in this fashion, shifting from drawings of things to drawing of words. Various methods of teaching writing perform this in various ways" (*Mind in Society*, 115).
191. Hegel describes this development, writing, "acquired habit subsequently effaces the peculiarity by which alphabetic writing appears, in the interest of vision, as a roundabout way to ideas by means of audibility; it makes them a sort of hieroglyphic to us, so that in using them we need not consciously realize them by means of tones, whereas people unpractised in reading utter aloud what they read in order to catch its meaning in the sound" (*Philosophy of Mind*, §459, 218). Vygotsky notes it as well, observing how "understanding of written language is first effected through spoken language, but gradually this path is curtailed and spoken language disappears as the intermediate link. To judge from all the available evidence, written language becomes direct symbolism that is perceived in the same way as spoken language" (*Mind in Society*, 116).
192. This difficulty is far from absolute, as is shown by how many hieroglyphs used to signify chemical elements have undergone transformations with the advance of scientific knowledge, just as others have been retained while signifying an altered semantic content. In the latter case the hieroglyph may not be alphabetic, but it figures more as a sign than a symbol. Letters can undergo a parallel transformation when orthography becomes less directly phonetic.
193. "It is only," Hegel writes, "a stationary civilization, like the Chinese, which admits of the hieroglyphic language of that nation; and its method of writing moreover can only be the lot of that small part of a nation which is in exclusive possession of mental culture" (*Philosophy of Mind*, §459, 216).
194. If written Chinese were hieroglyphic, as Hegel maintains, then it could be said to show how hieroglyphic writing can accommodate the free generative character of language in the ways described.
195. Rousseau distinguishes the three forms of writing as follows: "The cruder the writing, the more ancient the language. The primitive way of writing was not to represent sounds, but objects themselves, whether directly, as with the Mexicans, or by allegorical imagery, or as the Egyptians did in still other ways. ... The second way is to represent words and propositions by conventional characters. ... Such is the writing of Chinese. ... The third is to break down the speaking voice into a given number of elementary parts, either vocal or articulate, with which one can form all the words and syllables imaginable" (*On the Origin of Languages*, 26–7).
196. As Hegel points out, "hieroglyphics uses spatial figures to designate *ideas* [*Vorstellungen*]; alphabetic writing, on the other hand, uses them to designate vocal notes which are already signs. Alphabetic writing thus consists of signs of signs" (*Philosophy of Mind*, §459, 215).
197. Hegel observes that "hieroglyphics are used even where there is alphabetic writing, as in our signs for the numbers, the planets, the chemical elements, etc." (*Philosophy of Mind*, §459, 215).

198. Rousseau writes, "To know English one must learn it twice: first, to read it, and second to speak it" (*On the Origin of Languages*, 27).
199. As Rousseau notes, "If a foreigner looks at a book from which an Englishman is reading aloud, the foreigner will not perceive any connection between what he sees and what he hears the Englishman say. Why is that? Because England has been successively conquered by various peoples and, while their words have always been written in the same way, the way of pronouncing has often changed" (*On the Origin of Languages*, 27–8).
200. As Rousseau notes, "derivative languages are marked by a discrepancy between orthography and pronunciation. The older and more original a language is, the less arbitrary its pronunciation, and consequently the less complicated the signs for indicating that pronunciation" (*On the Origin of Languages*, 27).
201. Hegel writes, "The progress of the vocal language depends most closely on the habit of alphabetical writing; by means of which only does vocal language acquire the precision and purity of its articulations" (*Philosophy of Mind*, §459, 216).
202. Hegel writes, "hieroglyphic reading is of itself a deaf reading and a dumb writing" (*Philosophy of Mind*, §459, 218).
203. "The imperfection of the Chinese vocal language is notorious: numbers of its words possess several utterly different meanings, as many as ten and twenty, so that, in speaking, the distinction is made perceptible merely by accent and intensity, by speaking low and soft or crying out. The European, learning to speak Chinese, falls into the most ridiculous blunders before he has mastered these absurd refinements of accentuation." So Hegel writes in the *Philosophy of Mind*, §459, 216.
204. Rousseau writes, "The cruder the writing, the more ancient the language. The primitive way of writing was not to represent sounds, but objects themselves, whether directly, as with the Mexicans, or by allegorical imagery, or as the Egyptians did in still other ways. This state corresponds to passionate language, and already supposes some society and some needs to which the passions have given birth. The second way is to represent words and propositions by conventional characters. That can be done only when the language is completely formed and an entire people is united by common laws; for this already presupposes a twofold convention. Such is the writing of Chinese. ... The third is to break down the speaking voice into a given number of elementary parts, either vocal or articulate, with which one can form all the words and syllables imaginable. This way of writing, which is ours, must have been invented by commercial peoples who, in traveling to various countries, had to speak various languages, which would have impelled them to invent characters that could be common to all of them. This is not exactly to represent speech, but to analyze it. These three ways of writing correspond almost exactly to three different stages according to which one can consider men gathered into a nation. The depicting of objects is appropriate to a savage people; signs of words and of propositions, to a barbaric people; and the alphabet to civilized peoples" (*On the Origin of Languages*, 26–7).
205. See Hegel, *Philosophy of Mind*, §459, 215–18.

206. Arendt ignores this in suggesting that the Chinese cannot think conceptually. She writes, "what for us is 'abstract' and invisible, is for the Chinese emblematically concrete and visibly given in their script, as when, for instance, the image of two united hands serves for the concept of friendship. They think in images and not in words. And this thinking in images always remains 'concrete' and cannot be discursive, traveling through an ordered train of thought, nor can it give account of itself (*logon didonai*); the answer to the typically Socratic question What is friendship? is visibly present and evident in the emblem of two united hands" (*Life of the Mind*, 101).

5 The Psychology of Thinking

1. For a more detailed investigation of how universality is self-determined, see Winfield, *From Concept to Objectivity*, 51–65.
2. Hegel writes, in thinking, intelligence "finds its universal in the double signification of the universal as such, and of the universal as immediate or as being … it is a plain identity of subjective and objective … the thinking of intelligence is to have thoughts: these are as its content and object" (*Philosophy of Mind*, §465, 224).
3. Kant notoriously writes, "Thoughts without content are empty, intuitions without concepts are blind" (*Critique of Pure Reason*, A51/B75, 193–4), adding, "without intuition all of our cognition would lack objects, and therefore remain completely empty" (A62/B87, 199). Kant fails to recognize that he has thereby deprived his own transcendental investigation of any claim to genuine knowledge.
4. Arendt writes, riffing on Kant, that "the metaphor provides the 'abstract,' imageless thought with an intuition drawn from the world of appearances whose function it is 'to establish the reality of our concepts' and thus undo, as it were, the withdrawal from the world of appearances that is the precondition of mental activities. This is comparatively easy as long as our thought merely responds to the claims of our need to know and understand what is given in the appearing world. … It is altogether different if reason's need transcends the boundaries of the given world and leads us on to the uncertain sea of speculation where 'no intuition can be given which shall be adequate to [reason's ideas].' At this point metaphor comes in. The metaphor achieves the 'carrying over' – *metapherein* – of a genuine and seemingly impossible *metabasis eis allo genos*, the transition from one existential state, that of thinking, to another, that of being an appearance among appearances, and this can be done only by *analogies*" (*Life of the Mind*, 103).
5. Arendt emphasizes the distinction "between two altogether different mental activities, thinking and knowing, and two different concerns, meaning … and cognition" (*Life of the Mind*, 14), insisting that "The need for reason is not inspired by the quest for truth but by the quest for meaning. And truth and meaning are not the same" (15).
6. For a systematic investigation of these logical developments, see Winfield, *From Concept to Objectivity*, 67–130, and Winfield, *Hegel's Science of Logic*, 223–74.
7. Plato, *Republic*, 509d–513e, in Plato, *Complete Works*, 1130–2.

8. In the *Phaedo*, Socrates declares, "the one aim of those who practice philosophy in the proper manner is to practice for dying and death" (*Phaedo*, 63e, in Plato, *Complete Works*, 55), for "If we are ever to have pure knowledge, we must escape from the body and observe things in themselves with the soul by itself. It seems likely that we shall, only then, when we are dead, attain that which we desire and of which we claim to be lovers, namely, wisdom, as our argument shows, not while we live" (66e, 58).
9. Hegel provides the classic statement of these insights in the introduction to his *Science of Logic* (43ff).
10. As Collingwood notes, "If logic were merely descriptive, it would be a psychology of thinking; like all psychology, it would abstract from the distinction of thoughts into true and false, valid and invalid, and would consider them merely as events happening in the mind." See R. G. Collingwood, *An Essay on Philosophical Method* (Bristol: Thoemmes Press, 1995), 128. If logic, he continues, "had only to consider other kinds of thought, it could afford to deal with its subject-matter in a way either merely normative or merely descriptive, but towards itself it can only stand in an attitude that is both at once." For this reason, as Collingwood observes, logic's "subject-matter, namely thought, affords an instance of something which cannot be conceived except as actual, something whose essence involves existence" (130–1).
11. See Wilfrid Sellars, *Empiricism and the Philosophy of Mind* (Cambridge, MA: Harvard University Press, 1997), 105–7.
12. Husserl may claim that "there exist no endless regresses that are infected with difficulties of any kind ... despite the evident possibility of reiterable transcendental reflections and criticisms," but he cannot hide the fact that the radical self-investigation of such philosophy is "in the form of an endless program." See Edmund Husserl, *Cartesian Meditations: An Introduction to Phenomenology*, trans. Dorion Cairns (The Hague: Martinus Nijhoff, 1982), 152.
13. Hegel, *Philosophy of Mind*, *Zusatz* to §440, 180, *Zusatz* to §441, 181.
14. Hegel notes that consciousness may know *that* an object is, engaging in *Wissen*, but intelligence aims to know *what* the object is, to know its substantial nature – i.e., to engage in cognition proper, *Erkennen*. In thinking "intelligence strips the object of the form of contingency, grasps its rational nature and posits it as subjective; and conversely, it at the same time develops the subjectivity into the form of objective rationality. Thus our Knowing, which was at first abstract and formal, becomes a Knowing that is filled with a true content and is therefore objective. When intelligence attains this goal ... it is in truth what, to begin with, it only ought to be, namely cognition (*Erkennen*). The latter must be clearly distinguished from simple Knowing or awareness (*Wissen*). For consciousness is already a Knowing. But free mind does not content itself with a simple Knowing; it wants to cognize, in other words, it wants to know not merely that an object is, and what it is in general and with respect to its contingent, external determinations, but it wants to know in what the object's specific, substantial nature consists" (*Philosophy of Spirit*, *Zusatz* to §445, 191).
15. For further discussion of this key truth, see Richard Dien Winfield, *Hegel and the Future of Systematic Philosophy* (Houndmills: Palgrave Macmillan, 2014), 45–56.

16. The distinction between oppositional appearance and objectivity proper is highlighted by Hegel in his rigorous employment of "*Gegenstand*" versus "*Objekt*."
17. The three modes of this unity are distinguished by Hegel in terms of immediacy, opposition, and a reestablished immediacy containing opposition. See *Philosophy of Mind*, *Zusatz* to §465, 224.
18. Hegel, *Philosophy of Mind*, *Zusatz* to §465, 224.
19. As Vygotsky points out, it would be mistaken to study concept formation by focusing solely on the verbal definition of concepts, since concentrating just on words "fails to take into account the perception and the mental elaboration of the sensory material that give birth to the concept. The sensory material and the word are both indispensable parts of concept formation" (*Thought and Language*, 96–7). Conversely, "concept formation cannot be reduced to association, attention, imagery ... all these moments are indispensable, but they are insufficient without the use of a sign, or word. ... Real concepts are impossible without words, and thinking in concepts does not exist beyond verbal thinking. That is why the central moment in concept formation, and its generative cause, is a specific use of words as functional 'tools'" (106–7).
20. Davidson suggests that judgment must be a condition for having a concept insofar as "to have a concept is to class things under it" and this "is to *judge* or *believe* that certain items fall under the concept" (Davidson, *Problems of Rationality*, 137). Davidson, who here invokes empirical concepts, ignores how imagination can produce general representations without judging, as well as how judgments relate verbal meanings, which already have some significance prior to the relation into which the judgment sets them. Judgment gives them a further determination that cannot be reduced to imagery.
21. So Davidson claims that "a creature that cannot entertain the thought that it may be wrong has no concepts, no thoughts. To this extent, the possibility of thought depends on the idea of objective truth, of there being a way things are which is not up to us" (*Problems of Rationality*, 141). It is important to recognize that this is properly not a matter of correctness, of the fit of representations and phenomena, but of truth, of the correspondence of concept and objectivity.
22. Davidson notes "the fundamental distinction between a mindless disposition to respond differentially to the members of a class of stimuli and a disposition to respond to those items *as* members of that class" (*Problems of Rationality*, 138). The latter disposition follows upon thinking those individuals to belong to that class, a thought that is a judgment and very likely depends upon "a supporting nexus of further concepts" (138) to secure their class identity.
23. These stages in the discursive redetermination of meaning are indicative of how no causal account can determine beliefs. As Davidson points out, that conceptual determination entails normative considerations of truth precludes any such causal explanation. See *Problems of Rationality*, 142.
24. Kant, *Critique of Pure Reason*: "The faculty for thinking objects of sensible intuition ... is the understanding" (A51/B75, 193); "the **understanding** in general can be represented as a **faculty for judging** ... it is a faculty for thinking. Thinking is cognition through concepts" (A69/B94, 205).

25. Kant, *Critique of Pure Reason*: "we will distinguish reason from understanding by calling reason the **faculty of principles**" (A299/B356, 387); "I … call a 'cognition from principles' that cognition in which I cognize the particular in the universal through concepts. Thus every syllogism is a form of derivation of a cognition from a principle" (A300/B357, 388); "reason, in inferring, seeks to bring the greatest manifold of cognition of the understanding to the smallest number of principles (universal conditions) and thereby to effect the highest unity of that manifold" (A305/B361, 390).
26. Insofar as knowable objectivity is conditioned, reason can, on Kant's account, think but not know the unconditioned. Hence, reason figures as a merely regulative condition for understanding experience.
27. Hegel remarks of understanding that "its activity consists, in general, in making abstractions" (*Philosophy of Mind*, *Zusatz* to §467, 226).
28. Hegel notes these salient aspects of the thinking of understanding, remarking that "Intelligence which, as Understanding, forcibly separates from one another and from the object the various abstract determinations immediately united in the concrete individuality of the object, necessarily proceeds, in the first place, to connect the object with these general determinations of thought, hence to consider the object as relation, as an objective togetherness, as a totality. … [F]rom this standpoint the object is still grasped as something given, as dependent on something else by which it is conditioned" (*Philosophy of Mind*, *Zusatz* to §467, 226).
29. For further discussion of these options, see Winfield, *From Concept to Objectivity*, 107–22.
30. See Winfield, *From Concept to Objectivity*, 114–16, for a detailed explanation of how these connections follow from one another.
31. Hegel maintains that "in inference" the understanding "characterizes a content from itself, by superseding that form-difference" by which the parts of syllogism are distinguished. "With the perception of the necessity, the last immediacy still attaching to formal thought has vanished" (*Philosophy of Mind*, §467, 225). Still, more than syllogism is necessary to comprehend the positive outcome of the elimination of the formality of understanding.
32. Hegel contrasts the object of understanding and the object of reason in this vein, writing, "the following distinction must be firmly established between Understanding and Reason: that for the latter, the object is determined in and for itself, is the identity of content and form, of universal and particular, whereas for the former it falls apart into form and content, into universal and particular, and into an empty 'in-itself' to which the determinateness is added from outside; that therefore, in the thinking of the Understanding, the content is indifferent to its form, while in the comprehensive thinking of Reason the content produces its form from itself" (*Philosophy of Mind*, *Zusatz* to §467, 226).
33. As Hegel notes, in the pure thinking of reason, "the universal is known as self-particularizing, and from the particularization gathering itself together into individuality; or, what is the same thing, the particular loses its self-subsistence to become a moment of the Notion. Accordingly, the universal is here no longer a form external to the content, but the true form which produces the content from itself – the self-developing Notion of the thing [*Sache*]" (*Philosophy of Mind*, *Zusatz* to §467, 227).

34. As Hegel remarks, here "thinking has no other content than itself, than its own determinations which constitute the immanent content of the form; in the object, it seeks and finds only itself. Here, therefore, the object is distinguished from thought only by having the form of being, of subsisting on its own account. Thus thinking stands here in a completely free relation to the object" (*Philosophy of Mind*, *Zusatz* to §467, 227).
35. Accordingly, Hegel can duly characterize reason as "self-knowing truth, the self-cognizing Reason" where "*knowing* now constitutes the *subjectivity* of Reason, and the *objective* Reason is posited as *Knowing*" (*Philosophy of Mind*, *Zusatz* to §467, 227).

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