

### CHAPTER III

#### "CHYRSOSTOMOS": THE PROCESS OF BEGINNING

Perhaps he seem'd above the Critick's Law,  
And but from Nature's Fountain scorn'd to draw:  
But when t'examine ev'ry Part he came,  
Nature and Homer were, he found, the same.

--Alexander Pope, Essay on Criticism<sup>1</sup>

Telemachus offers in miniature the principles upon which the whole novel is based. The relationship between system and process is a microcosm of that which operates in the whole. The system is a constant. The process of signification/cognition/semiosis contracts a sign function with the system. The process makes the system more determinate. Abduction, the initial mode of inquiry in the Play of Musement, assumes prominence in Telemachus for this reason. The second and third sections of the novel depend upon the first section, just as deduction and induction depend upon abduction for the creation or original conjecturing of a new idea which is the hypothesis to be tested. For this reason, Telemachus will be discussed in more detail than is given to the subsequent episodes.

Play, which is not the play of musement, Buck Mulligan's play, begins the novel:

Stately, plump Buck Mulligan came from the stairhead, bearing a bowl of lather upon which a mirror and razor lay crossed. A yellow dressing gown, ungirdled, was sustained gently behind him by the mild morning air. He held the bowl aloft and intoned:

-- Introibo ad altare Dei.

Halted, he peered down the dark winding stairs and called up coarsely:

-- Come up, Kinch. Come up, you fearful jesuit (U 3/5).

Buck Mulligan's "art of play" "consists in the mastery of biplanar behavior." As Jurij Lotman explains, biplanar behavior "implies the simultaneous (not consecutive!) realization of practical and abstract behavior." And "art performs this essential function to an even greater degree . . . representing on one level the affirmation of a rule, and on another, a deviation from that rule."<sup>2</sup> Buck Mulligan's abstract and practical behavior is biplanar, even before Stephen is called for. This 'biplanar behavior' is of great importance.

The introduction of Stephen Dedalus into the biplanar behavior of Buck Mulligan allows for a great range of speculation. No character in fiction has had such an elaborate stage of meaning established for an entrance.

And no character in fiction has had such a unique relationship to the Graphist. Notice the skillful

manipulation of relational space between the Graphist and Stephen in the passage where Stephen is introduced:

Then, catching sight of Stephen Dedalus,  
[Buck] bent toward him and made rapid crosses in  
the air, gurgling in his throat and shaking his  
head. Stephen Dedalus, displeased and sleepy,  
leaned his arms on the top of the staircase and  
looked coldly at the shaking gurgling face that  
blessed him equine in its length, and at the light  
untonsured hair, grained and hued like pale oak  
(U 3/5).

Repetition of the word gurgling aligns two different perspectives with the same purport. The first gurgling does not depend upon Stephen's sensations, whereas the second does. The second is part of what Stephen "looked coldly at."

What occurs here bears a closer examination, for what happens is of consequence to our conceptions of narrator, character, and representation. The sound Buck is making is the content substance for two different expression substances which share the same expression form, to use Hjelmslev's terminology. The shared continuum of thought is of major significance.

The alignment of the two different perspectives is a cognitive feature or element. We have already discussed the triadic nature of representation which includes within it a process of mediation. The process of mediation is a

cognitive process. This cognitive aspect inherent in the functioning of a sign makes quite a difference in Ulysses. In dyadic representation, thoughts are presented by a narrator who is severed from the actuality of objects and events by his mere existence, or presence. In triadic representation, which is used in Ulysses, there is not a severance between the space of representationality and space of representation. They are relational. Despite their incongruence in relation to each other they cover the same zone of purport. The example at gurgling provides an early, and important example of the triadic nature of representation in Ulysses.

Joyce, as we have discussed, carefully considered the cognitive aspects of aesthetic systems in his Notebooks and determined that cognition interacts with the form and substance of whatever is being considered--be it a work of art or a thing of beauty in the 'real' world. This interaction is denied by the traditional nominalistic perspective. And this interaction between form and substance is exactly what we need to discuss as it applies to the first page of the novel.

Hjelmslev makes clear the relation between form substance and purport in both the expression and the content planes of language. Like Joyce and Peirce, who include the cognitive element within the sign process, Hjelmslev includes "purport" in his definition of "sign." Purport is "the thought itself" which "exists provisionally as an amorphous



mass, an unanalyzed entity."<sup>3</sup> The following remarks by Hjelmslev clarify the importance of purport to the expression and content planes of language:

We are in a position to see more clearly behind the controversy between the traditional and the modern linguistic points of view. It seems to be true that a sign is a sign for something, and that this something in a certain sense lies outside the sign itself. Thus the word ring is a sign for that definite thing on my finger, and that thing does not, in a certain (traditional) sense, enter into the sign itself. But that thing my finger is an entity of content-substance, which, through the sign, is ordered to a content-form and is arranged under it together with various other entities of content-substance (e.g., the sound that comes from my telephone). That a sign is a sign for something means that the content-form of a sign can subsume that something as content-substance. Just as we felt before a need to use the word purport, not simply of the content, but also of the expression, so here again, in the interest of clarity, despite the time-honored concepts whose shortcomings now become increasingly evident, we feel a desire to invert the sign-orientation: actually we should be able to say with precisely the same right that a sign is a sign for an expression-substance. The

sound sequence[rɪŋ] itself, as a unique phenomenon, pronounced hic et nunc, is an entity of expression-substance which, by virtue of the sign and only by virtue thereof, is ordered to an expression-form and classified under it together with various other entities of expression-substance (other possible pronunciations, by other persons or on other occasions, of the same sign). The sign is, then--paradoxical as it may seem--a sign for a content- substance and a sign for an expression-substance. It is in this sense that a sign can be said to be a sign for something (Prolegomena, 57-8; emphasis added).

On the first page of Ulysses we are given two entities of expression-substance--the two different occasions, or persons, or types of pronunciation of the word gurgling. These two expression substances are ordered to an expression form, the word itself. And, as Hjelmslev emphasizes, "that a sign is a sign for somethings means that the content-form of a sign can subsume that something as a content-substance." The same operation is true of the expression plane. The expression-form subsumes "that something" as an expression-substance. And what we are considering, of course, is an aspect of the expression-plane.

We can see that the two expression substances on the first page of Telemachus are ordered to an expression form--the word gurgling. It subsumes the "something" which is the

focus of the sign process. And as Hjelmslev explains, the content and expression appear "by the form's being projected onto the purport, just as an open net casts its shadow down on an undivided surface," and the purport "remains. . . substance for a new form" (Prolegomena, 57, 52) And here the content and expression do appear in such a manner. We will consider the purport as it "remains substance for a new form" shortly, after we consider the ramifications of this unique use of the expression system in Ulysses.

The double gurgling continues the realistic quality of the episode. But, as we have seen, underlying this realism is a manipulation of the expression system (or mediation within the expression system) which places upon the same amorphous continuum called purport the traditional space of representationality and the traditional space of representation. Such a repetition of a word does not always bear such an analysis. But on this first page of Ulysses the first gurgling is from one expression substance (person/space/occasion) and the second is from another and this occurs at the introduction of a major character already familiar to readers of Portrait. Thus, on this first page, which begins with the biplanar behavior of a character, what is significant is not the difference between the two expression substances (which are subsumed by the same expression-form) but the difference between the expression-plane (and the something that is subsumed--their similarity or relation) and the content plane. Buck thus has

a foil; that foil is neither the character nor what has been called the traditional narrator, but the operation of the expression-plane itself, which places both expression substances under the same form.

Already the traditional privilege of the narrator in fiction has been usurped. A narrator does not control a represented world by fiat in Ulysses. Rather than a traditional narrator there is an expression system containing an expression-purport, a cognitive element, which upsets traditional concepts of mimetic, or dyadic narration. What Hjelmslev has provided in theory is in agreement with what Peirce describes in the functioning of the sign process.

Stephen's perspective is thus aligned with the perspective of the Graphist of the novel. Peirce provides an appropriate example for this division of the term "author" into two (and the example is itself used later in Ulysses, as if Joyce had read this passage):

In thought, an absolutely determinate term cannot be realized, because not being given by sense, such a concept would have to be formed by synthesis, and there would be no end to the synthesis because there is no limit to the number of possible predicates. A logical atom, then, like a point in space, would involve for its precise determination an endless process. We can only say, in a general way, that a term, however determinate, may be made more determinate still, but not that it can be made

absolutely determinate. Such a term as "the second Philip of Macedon" is still capable of logical division -- into Philip drunk and Philip sober, for example; but we call it individual because that which is denoted by it is in only one place at one time. It is not absolutely indivisible, but indivisible as long as we neglect differences of time and the differences which accompany them (3:93; emphasis added).

We have just discussed the same important distinction between the two perspectives in Telemachus -- between what is absolutely indivisible and what is one in number from a particular point of view. A term is not "absolutely indivisible, but indivisible as long as we neglect differences of time and the differences which accompany them." And Peirce further explains, "there is nothing to prevent almost any sort of difference from being conventionally neglected in some discourse" (3:93).

The difference between the two "gurglings" (the two expression substances that are indivisible in form but not absolutely indivisible once we consider neglected differences of time and accompanying differences) can be understood as the difference between what is universal and what is singular. The "logical atom" of thought, as Peirce writes in reference to the two Philips "would involve for its precise determination an endless process." The same is true of Ulysses. The process of Ulysses clearly depends on the

determination of the "logical atom" of the novel: the term "author" which is divided in substance, related through time, and one in form. Musement has its beginning here in the expression system, at gurgling, where a cognitive element aligns two expression substances which are incongruous to each other. Between the two can be seen the difference between the absolutely indivisible and that which is one in number from a particular point of view.

This distinction between the absolutely indivisible and that which is one in number from a particular point of view is shadowed forth in the two words individual (τὸ ἄτομον) and singular (τὸ κατ' ἐκάρτον); but as those who have used the word individual have not been aware that absolute individuality is merely ideal, it has come to be used in a more general sense (3.93).

The eternal and the infinite rest on the point of convention which allows any term to be further divided. The doctrine of individuals understood from this perspective allows Peirce to describe three kinds of terms which involve general suppositions of individual cases: individual terms (which denote only individuals), infinitesimal relatives (relatives whose correlatives are individual), and individual infinitesimal relatives (or elementary relatives) (3.95-3.134). To Joyce, the difference between the universal and singular is a matter of what is absolutely indivisible

and what is one from a particular point of view. It allows Joyce to usurp the presence of the traditional narrator by presenting the relation between what is universal and singular in the expression plane. Time is the convention which "divides" them but it is also the process which unites them.<sup>4</sup> These ideas are themes in Ulysses, and are also operative in Finnegans Wake.

We have discussed how the concept of a completed infinite is an important part of Joyce's Aesthetic Notebook. The idea asserts a person's ability to intuit the infinitely determinate, or the absolutely individual (3.93), as did Blake. Blake's "visionary faculty is directly connected with the artistic faculty" and "the mental process by which Blake arrives at the threshold of the infinite" is a process of seeing "not with the eye. . . . but beyond the eye" (CW, 121-2). All of Joyce's many statements about the infinite and eternal, about the true and beautiful being spiritually possessed, about the parts constituting the whole, show his unchanging belief in these concepts and his desire to express them. What has been difficult is discovering how Joyce accomplished the ability to write a work which seems infinite and absolute and also individual and particular. Now we have a means of describing how it has been accomplished.

As if they were directly taken from the example Peirce provides to explain the doctrine of individuals, Philip Sober and Philip Drunk appear in Circe. They wear the masks of Matthew Arnold's face and push purring lawnmowers. (These

details are first mentioned in Telemachus.) Philip Drunk and Philip Sober demonstrate the fact to Stephen that the term "the author" is capable of logical division. Peirce explains the radical nature of such an idea: "the absolute individual can not only not be realized in sense or thought but cannot exist, properly speaking. For whatever lasts for any time, however short, is capable of logical division, because in that time it will undergo some change in its relations. But what does not exist for a time, however short, does not exist at all. All, therefore, that we perceive or think or that exists, is general. So far there is truth in the doctrine of scholastic realism. But all that exists is infinitely determinate, and the infinitely determinate is the absolutely individual. This seems paradoxical, but the contradiction is easily resolved. That which exists is the object of a true conception. This conception may be made more determinate than any assignable conception; and therefore it is never so determinate that it is capable of no further determination" (3.93; emphasis added).

This "true conception" is the heart and soul of Ulysses. It is the element of thought in Musement. The text itself is object of the conception or Play of Musement. What makes Ulysses seem infinitely determinate and absolutely individual is the presence of such a conception. The conception is pondered by Stephen in the first three episodes, especially in his musing upon Berkeley, which we will discuss later. The conception allows Stephen to learn from Philip Drunk and



Philip a principle which allows the work to be thought of as such an object. And such a principle governs the actual text called Ulysses. The first page of the novel contains the new idea as it is conjectured in the abductive mode of inquiry.

Even before the process of abduction begins, we can see the principle which will be abducted already operative in the expression plane. The cognitive system of the novel works not just in the content plane, but also in the expression plane. The expression plane is not just a group of words with mimetic referents, but in addition, an arrangement of words which embody an interpreting thought which Peirce calls the interpretant and which Hjelmslev calls purport. The interpretant is built into the expression system. In Finnegans Wake the same process occurs, but the minimal unit is the letter.

The basic principles of the system of the novel are evident even before the process of abduction begins. The interpretant or purport just described in the expression plane is remaining as "substance for a new form" in the content plane. Together the content and expression planes contract a sign-function. For readers focused only on the content plane of Ulysses, the same principle comes into play.

--For this, O dearly beloved, is the genuine  
Christine: body and soul and blood and ouns. Slow  
music, please. Shut your eyes, gents. One moment.  
A little trouble about those white corpuscles.  
Silence, all.

He peered sideways up and gave a long low whistle of call, then paused awhile in rapt attention, his even white teeth glistening here and there with gold points. Chrysostomos (U 3/5).

Chrysostomos: the word is a symbol of abduction. By definition, abduction begins with a "surprising phenomenon, some experience which either disappoints an expectation or breaks in upon some habit of expectation" (6.469). The surprising phenomenon, for Stephen (and for the reader) is the manner in which the glistening gold points mock the mocker Buck Mulligan.

What amazes Stephen is the unexpected manner in which Buck, the mocker of transubstantiation, is mocked. Buck is waiting for a response to his whistle of call, waiting for something which would signify the completion of the "consecration" of the "offerings" in his Black Mass. Stephen, in the intense pause, sees the glistening gold points. The effects of the sun upon Buck's teeth unwittingly evaluate him. Buck is seen, because of the effects of the sun upon his fillings, not as a mocker, but as the mocked. A single consequence of the sunny day, the sun reflecting off his gold filling, but what a surprise to Stephen the young artist, when before his eyes, the mocker is mocked.

This surprise accounts for the word "Chrysostomos." Delete the information about the glistening teeth and gold points and the word is inappropriate:

He peered sideways up and gave a low whistle of call, then paused awhile in rapt attention.

Chrysostomos.

The meaning and effect of "Chrysostomos" is lost when the glistening teeth and gold points are omitted. "Chrysostomos" would, in fact, without the information about the effects of the sun, be a continuation of the mockery and meaning which Buck is acting out. "Chrysostomos," without the effects of the sun, would allow Buck to stand without evaluation. Buck would be the same mocker that he has always been. There would be no "surprise," no abduction and as we shall see, no responding whistles.

The effects of the sun upon Buck's teeth in this context are indeed a surprise because they "break in upon some habit of expectation."<sup>5</sup>

"Chrysostomos"--the word represents the surprise of Abduction, and in its polysemy represents the conjecturing involved in Abduction. It is itself a break in the type of wording used in the novel and asserts itself as if it were a surprising and credible conjecture. And, even more important, it emphasizes the elements of the context which have given rise to its presence. It has often and correctly been cited as a one-word epiphany; but it has never been connected to the effects of the sun or to the cognitive process of Stephen in the episode or to the use of the sun as a structuring device of the novel (as seen in the schema

which Joyce gave to Linati, and in the temporal ordering of events).

The motivation for the word Chrysostomos is found in the effects of the sun, and from another more analytical level, in the purport of the expression system, wherein the character and the Graphist are subsumed by a common expression form. Sandulesco states that "all of a sudden Chrysostomos occurs unmarked in any way. And after this single word, omniscience and the traditional angle of vision return."<sup>6</sup> But, with our understanding of the motivation of the word "Chrysostomos," we can see that there is no traditional angle of omniscience returning for there never has been such a traditional angle. A non- traditional means of representation has been used all along. What becomes important is the content-system at this point. The traditional angle of vision in traditional fiction has already been usurped.

The word "Chrysostomos" makes a reader feel the surprise that Stephen feels upon seeing the glistening gold points. The readers can thus experience the conjecturing that Stephen experiences in Abduction. But will the reader connect that "surprise" to what has happened in the content plane? This is what Joyce clearly devotes attention to. Such is the importance of the surprise (of the principle of Abduction, of the hypothesis which Abduction contains) that Joyce did not rest content ending the paragraph with "Chrysostomos." After *Telemachus* had been published in the Little Review, Joyce

wrote in the galley proofs during the summer of 1921, "Two strong whistles answered through the calm."<sup>7</sup> The two whistles are surprising phenomena; no one expects Buck's mocking call for the consecration of the "offerings" in his black mass to be answered. Buck himself in the original is not distressed by the absence of a response: in both the original and the revised version Buck states, "Thanks, old chap. That will do nicely. Switch off the current, will you?" (U 3/5). It makes no difference to him whether there is a response to his whistles; he will assume in either case that he can mock the absence of transubstantiation. The two whistles are the phonic equivalent of the spatial aspects of the sun which caused the surprise.

By adding the sentence which includes the two responding whistles, Joyce ensures that readers experience the same kind of conjecturing that Stephen experiences in Abduction. And the best explanations of the two whistles suggest some aspect of what we are naming abduction. Robert Boyle writes that the two answering whistles are literally from "swimmers at the 40 Foot, but metaphorically and allegorically those three whistles fill out the trinitarian signal proper to Consecration, formerly sounded out with a little bell by the server at Mass; anagogically . . . the whistles signal Molly's divine intervention. As Holy Spirit she does bring a source of true artistic life to the observing Stephen."<sup>8</sup> Boyle provides a figurative way of suggesting Stephen's

process of abduction: Molly brings the "possibility of true artistic life to the observing Stephen."

And the Benstock Principle describes readers' reactions in terms very similar to these used in defining abduction:

Whereas we are told that it is Mulligan who gives "the long low whistle of call," we are never told the source of "two strong shrill whistles" of response. This narration, which is deceptively matter-of-fact, provides the facts without directions; the context is obviously assumed without being stated. And when the reader attempts to state the assumption, either by making a realistic supposition (that the mailboat coincidentally issues two whistles) or by supplying the metaphor appropriate to the circumstance (that the whistles correspond to the bells of the Eucharist), he confronts the various subjects of the text without recourse to an intervening source. He intuits the principles that govern this context even as he supplies the 'missing' bases on which the facts of the text rest.

It is obvious, then, that the reader must supply for himself the principles that given the contextual setting of action in the text, must divine for himself the relationship that exists between the subject as narrated and the process by which it is narrated.<sup>9</sup>

The Benstocks describe the reading process perceptively: the making of a "realistic supposition" which would explain the source of the responding two whistles is similar to the conjecture which is inherent in abduction. A reader "intuits the principles that govern the context even as he supplies the 'missing' bases on which the facts . . . rest," much like a person in abduction who ponders the surprising phenomena (which breaks in upon some experience or habit of expectation) and who intuits an hypothesis which would account for it.

But we must also credit Stephen with the same ability to ponder these phenomena in all their aspects, in "the search of some point of view whence the wonder shall be resolved." If a reader abduces the principles of the text, Stephen can also abduce the principles which account for the surprising phenomena within his experience. Stephen, too, is in a situation where he can divine the "relationship that exists between the subject as narrated and the process by which it is narrated." In fact the relationship is the surprise! Stephen notices the manner in which the natural process mocks the pseudo-artistic/theological process of Buck. The sun glistens on Buck's gold fillings. The natural process itself transforms the mockery into what has been mocked.

Yet Stephen's capacity to think of such things has been, in previous criticism, either omitted or severely limited. One reason for this unfortunate limitation is the unique kind of thinking involved, a mode of inquiry which opposes

traditional nominalistic assumptions about cognition and reality. Not only is the kind of thinking unique, but the presentation of it within literature is doubly so. Another reason for past criticism's limitations is that the thoughts themselves are, true to the nature of abduction, not necessarily conscious ones. The thoughts themselves are not written into the text, but are instead expressed or demonstrated by the text in the first stages of abduction.

Chrysostomos marks the beginning of the process of abduction. It is the "bursting out of the startling conjecture." It is an interpretant which is itself a sign. Peirce explains abduction: "The whole series of mental performances, between the notice of the wonderful phenomenon and the acceptance of the hypothesis during which the usually docile understanding seems to hold the bit between its teeth and to have us at its mercy, the search for pertinent circumstances and the laying hold of them, sometimes without our cognizance, the scrutiny of the phenomena, the dark laboring, the bursting out of the startling conjecture, the remarking of its smooth fitting to the anomaly, as it is turned back and forth like a key in a lock, I reckon as the First Stage of Inquiry . . . reasoning from consequent to antecedent" (6.469). Chrysostomos expresses the "wonder" of the surprising phenomenon from Stephen's perspective. Chrysostomos is a symbol which expresses the conjecture and the acceptance of the hypothesis which would account for the anomaly. But what is the hypothesis? To answer this requires an understanding of abduction.



Abduction is the important first step in developing a new idea into an accepted truth. Though it is open to error, and though it is dependent upon experience and guess-work, it is an "originary argument." It "presents facts in its Premise which present a similarity to the fact stated in the conclusion, but which could perfectly well be true without the latter being so, much more without its being recognized; so that we are not led to assert the Conclusion positively but are only inclined toward admitting it as representing a fact of which the facts of the Premiss constitute an Icon" (2.95). The example of Kepler makes this clear: "at a certain stage of Kepler's eternal exemplar of scientific reasoning, he found that the observed longitudes of Mars, which he had long tried in vain to get fitted with an orbit, were (within the possible limits of error of the observations) such as they would be if Mars moved in an ellipse. The facts were thus, in so far, likeness of those of motion in an elliptic orbit. Kepler did not conclude from this that the orbit really was an ellipse; but it did incline him to that idea so much as to decide him to undertake to ascertain whether virtual predictions about the latitudes and parallaxes based on this hypothesis would be verified or not. This probational adoption of the hypothesis was Abduction. An Abduction is Originary in respect to being the only kind of argument which starts a new idea" (2.96; emphasis added).

Abduction is "a method of forming a general prediction without positive assurance it will succeed"; it is a method

of "regulating future conduct" (2.266). Abduction moves "from experience to hypothesis inferring a universal proposition about the future" (2.755). It is "experience in one mass" (2.75). But it "infers facts not capable of observation" and supposes facts of a different kind than what is observed (2.60-42). Peirce also writes that Aristotle's four material causes are equivalent to different types of abductively inferred facts which "furnished the universal process of nature" (6.66; see also 2.776 for a connection between Aristotle and abduction). Peirce considers the formal and physiological nature of abduction (2.426, 2.509-19; 2.634 and elsewhere); the rules of and the validity of abduction are frequently discussed in his writing. In short, Peirce believed that the logic of abduction is the quest of pragmatism (5.121), for the elements of every concept enter the gate of cognition and exit at action (5.212). Abduction is the logic of invention, for it is a method which explains how concepts are brought into being, how new ideas occur. For this reason abduction is compared to a flash of lightening (5.181). The connections to Ulysses should be even clearer now that we have an outline of what abduction is.

Abduction or hypothesis, deduction, and induction are shown below as they differ:

## DEDUCTION

Rule. --All the beans from this bag are white.

Case. --These beans are from this bag.

Results. --These beans are white.

## INDUCTION

Case. --These beans are from this bag.

Result. --These beans are white.

Rule. --All the beans from this bag are white.

## ABDUCTION

Rule. --All the beans from this bag are white.

Result. --These beans are white.

Case. --These beans are from this bag (2.623).

Induction and hypothesis or abduction are opposites, but they are both synthetic types of inference, whereas deduction is analytic. Abduction is the "inference of a case from a rule and a result" (2.633). "Abduction must affect deduction" (5.196), Peirce later writes. In the Play of Musement it begins the whole process.

In Ulysses the rule is that the natural process is like the artistic process. The result is before Stephen's eyes. The case is that the effects of the sun are like the artistic process.

Peirce writes that when "we find some very curious circumstance, which would be explained by the supposition that it was a case of a certain general rule, and thereupon adopt the supposition," we experience the process of abduction (2.624). The form of an hypothesis in abduction is

shown in an example by given by Peirce (2.425):

M is, for instance, P', P'', P''', and P<sup>IV</sup>

S is P', P'', P''' and P<sup>IV</sup>

∴ S is all that M is.

Peirce explains: "Here again there is an increase of information, if we suppose the premisses to represent the state of information before the inferences. S receives an addition to its depth; but only a potential one, since there is nothing to show that the M's have any common characters beside P', P'', P''', and P<sup>IV</sup>. M, on the other hand, receives an actual increase of breadth in S, although, perhaps, only a doubtful one. There is, therefore, this important difference between induction and hypothesis [or abduction], that the former potentially increases the breadth of another" (2.425).

In Ulysses we can understand the specifics of Stephen's abduction with reference to the above remarks. If we substitute M with the artistic process, and S with the natural process, we find that Stephen's abduction simply finds that they are similar or nearly equivalent to each other.

All representations in the artistic process express or reveal facts, ideas, and relationships; are made of some material which can be observed; seem to include an evaluative gesture, or, in other words, bring about an awareness concerning the objects, or facts or ideas, or relationships represented.

This (effect of the sun) gleam upon Buck's tooth from the sun expresses or reveals facts, ideas, and relationships; is made of material which can be observed;

seems to include an evaluative gesture, or bring about an awareness concerning the present facts, ideas, and relationships which it has brought into light or represented.

- ∴ This (effect of the sun) gleam upon Buck's teeth is artistic or part of the artistic process.

In Ulysses Stephen does not conclude positively in abduction that that natural process (the effects of the sun) is like the artistic process but it does incline him to that idea (and likewise inclines a reader to that idea). Abduction "often inclines our judgment so slightly toward its conclusion that we cannot say that we believe the latter to be true; we only surmise that it may be so" (2.625). The first section of Ulysses (the first three episodes) is the working out of the original conjecture to the point where the hypothesis which would account for the surprising phenomenon is held with favor. Explicating the hypothesis and demonstrating the consequences which would follow from its supposed truth constitute deduction, found in the second part of Ulysses.

### Topo-sensitive Details

Although the first episode "cunningly gives the impression of non-semiosis," there is actually a semiotic design underlying the overcoded physical nature of the events portrayed (Eco, A Theory of Semiotics, 271).<sup>10</sup> The topo-sensitive details of Telemachus comprise "an underlying system of mutual correlations" important in that "its

structural arrangement becomes one of the contents that it conveys" (Eco, Theory, 271). The topo-sensitive details provide Stephen with the means of constructing an artistic model which is motivated by the natural process.

Topo-sensitive details are required in the production of expressions; they are governed by ratio difficilis (Eco, Theory, 184-87). Topo-sensitive details are physical phenomenon whose nature is different from verbal phenomenon; these physical phenomenon, when topo-sensitive, are non-verbal equivalents of deictic or anaphoric verbal signs such as /this-that/ or /here-there/, the latter of which have been called shifters. Famous examples of these non-verbal pointers are a pointing finger or a directional arrow. Eco states that "in non-verbal signs the format of the sememe is determined by the format of the sign-vehicle -- or vice-versa. This particular link of 'motivation'. . . cannot be explained without having recourse to a theory of the modes of physical production of sign-functions" (Theory, 120-21; also see "Compositional analysis of non-verbal expression," pp. 114-121).

Both Stuart Gilbert and Hugh Kenner have noticed the basic features of topo-sensitivity. Kenner delegates the management of these topo-sensitive details to the "first" narrator, the housekeeper, whose "mannerisms, not easy to catalogue, include a certain fussiness about setting and decor (much 'up' and 'down' and 'across'; much particularity of 'jagged granite' and shafts of light meeting amid turning

coalsmoke" (Joyce's Voices, 69). These "mannerisms" all pertain to spatial situations; and they are functional. As Gilbert has said, "the realism strikes far deeper than the exercise of verbal frankness," (A Study, 6). Once we recognize the importance of these topo-sensitive details in the production of expressions by Stephen within the space of representation we can understand the importance of Stephen "sketching a gesture" in Nestor and saying in Circe that "gesture, not music, not odours" is "the gift of tongues rendering visible not the lay sense but the first entelechy, the structural rhythm" (U 432/425). Stephen's production of an expression system, based on topo-sensitive details in Ulysses, manifests the code of the text so that unlike Lynch we may understand the correlations; Stephen himself becomes aware of the need for an artist to base a expression system upon visible relationships, such as are provided by topo-sensitive details. These topo-sensitive details present correlations; they provide a "first entelechy" or "working order" without an intrusive narrative presence. "No voice. I am a most finished artist" (U 518/507): Stephen understands how he can, like the seemingly double narrator so much like manager and character, be "out of it now" (U 519/508), an understanding imaged with the presence of Philip Drunk and Philip Sober. By making referential words topo-sensitive to the underlying system of exchange of the author one can "work it [the voice of the author] out with the butt end of a pencil" (Philip Sober, U, 518/507).

Thus the function of the topo-sensitive details in Telemachus is to manifest a correlation between a content system and an expression system that is not based on a conventional coding correlation. Instead of a conventional correlation between content and system, Stephen produces an expression system which is based on features of the "natural process".

Topo-sensitive details are governed by ratio difficilis. Umberto Eco defines ratio difficilis as follows: "there is a case of ratio difficilis when an expression-token is directly accorded to its content, whether because the corresponding expression-type does not exist as yet or because the expression-type is identical with the content-type. In other words, there is a ratio difficilis when the expression-type coincides with the sememe conveyed by the expression-token. One could say that in cases of ratio difficilis the nature of the expression is motivated by the nature of the content" (Eco's emphasis, Theory, 183).

The effect of the sun is an "expression-token." Stephen must abduce (thinking from consequent to cause) the expression-type. We have already discussed the expression-system as it exists before the surprising phenomena occurs. It is, in fact, the expression-type for which the effect of the sun is an expression token. For each aspect of the expression system already discussed, an analogy exists concerning the sun as it is token (in other words as it is a physical cause of the observable effects which



Stephen sees, eg. as it exists outside the context of events and is materially present in the gleam within the events, as it has two aspects which share the same expression substance which here is the material of light, etc.). If the expression-system of the text is imagined as a type, and a model Stephen considers (and later constructs) is for the moment imagined as a token, the expression-systems of the text and of the character would be identical according to ratio difficilis (if one omits the physical labor of Stephen's sign-production in abduction).

Examples of ratio facilis, on the other hand are "foreseen by a given code" because an expression-token is accorded to an expression-type, duly recoded by an expression-system" (Theory, 183). We can see that if Stephen does in fact construct a model of an expression-system (as I will show), then the disruptions of the expression-system of the text in episodes four through eighteen are examples of ratio facilis, "foreseen" by a given code. Stephen's expression-system lays bare the code of the novel and, thus, tokens of the text's expression system in Aeolus and Sirens and the other episodes in the second section of Ulysses are "foreseen." In other words the "code" revealed in abduction is the basis of its demonstration in the second-deductive-section of the novel.

We will now consider whether/how Stephen constructs or comes to consider the construction of an expression model which is the expression-token of the type already manifested

(and described, above) in the text of Ulysses, an expression token of that found in the hypothesis, which equates the natural and artistic processes. Stephen will manifest a correlation between a content system and expression system which is not based on a conventional or traditional coding correlation. In this correlation, features of the sun, air, sound,-- topo- sensitive details-- are correlated with features of the expression-material, expression-continuum, and expression- form; a natural model is correlated with elements of an artistic model. By making such a model explicit within the text, a reader's awareness of the system of the text itself proceeds "serially" in as much as Stephen's production of and awareness of the system proceeds "serially". Joyce has "no voice" in the text; he can be "out of it" because of the reproduction of his system within the text: Stephen's content-expression correlation is, as we shall see, a duplication of the whole system of the text in miniature (a feature of four-dimensional systems).

I would like to narrow the scope of the topo-sensitive details to include the sun, air, and whistles; although other topo-sensitive details become pertinent, these are the initial ones which Stephen uses in the construction of his expression-system.

Air contains the semantic markers /+ or - visible/ and /+ or - dynamic/. These semantic markers will be combined with the semantic markers of the sun: /+visible/, /+dynamic/, and /+luminous/. The whistle's semantic markers

are /+sonority/, /+outside/ and /+ or - source/. Syntactic markers include /reversal/, and /doubling or repetition/. The grammatical active and passive voice allow the above elements to remain in a marked position or to be present in an unmarked position. Stephen's expression model repeats features of the text's expression model: Buck's expression system opposes them.

The first reference to air appears in a passive grammatical construction which places the semic marker /+dynamic/ and /+agent/ in an unmarked position: "A yellow dressinggown, ungirdled, was sustained gently behind him by the mild morning air."

The second reference to air appears immediately before the transgression of traditional represented space at the double gurgling.

Then, catching sight of Stephen Dedalus, he [Buck Mulligan] bent towards him and made rapid crosses in the air, gurgling in his throat and shaking his head. Stephen Dedalus, displeased and sleepy, leaned his arms on the top of the staircase and looked coldly at the shaking gurgling face that blessed him, equine in its length, and at the light untonsured hair, grained and hued like pale oak (U 3/5).

Air is /-dynamic/, a reversal of the previous semantic use in the first paragraph of the novel. In the first use, Buck was

an object; in the second, Buck is an agent--a reversal related to the change in the use of air. Here Buck is shown in opposition to the text's expression system.

The expression-continuum at the textual level is calm when the two whistles repond. It is as calm as "the mild morning air" in the first paragraph. The two whistles answer "through the calm." Air is a topo-sensitive detail which stands for the expression-continuum. It exhibits the contemplative rest which is a feature of Musement. We will see how it has been encoded in Stephen's expression-model, when the semantic elements of the air are combined with semantic elements of the sun (Stephen will hear "warm running sunlight" and consider the "bright air"). The semic markers of the sun /+visible/, /+dynamic/, and /+luminous/ include /+cause/.

Stephen's perception of these effects of the sun entails his recognition of the meaning of them in context. Joyce in his Notebook emphasized the relation between perception and recognition: the first necessarily involves the second. Chrysostomos, as we may have discussed, is a signal of such a recognition which Peirce calls abductions. According to Eco recognition "occurs when a given object or event, produced by nature or human action (intentionally or unintentionally), and existing in a world of facts as a fact among facts, comes to be viewed by an addressee as the expression of a given content, either through a pre-existing and coded correlation or through the positing of a possible correlation by its

addressee" (Eco, Theory, 221). Stephen will view the event as an "expression of a given content" because of what Eco calls "the positing of a possible correlation" between the natural process and the artistic process. Such a correlation is the basis of abduction. Eco continues, "In order to be considered as the functive of a sign-function the object or event must be considered as if it has been produced by ostension, replica or invention and correlated by a given kind of type/token-ratio" (his emphasis, p. 221). This move from consequent to cause is what must give Stephen pause, what is so surprising to him.

Stephen recognizes the effects of the sun as the expression of a given content: "Thus the act of recognition may reconstitute the object or event as an imprint, a symptom or a clue. To interpret these objects or events means to correlate them to a possible physical causality functioning as their content, it having been conventionally established that the physical cause acts as an unconscious producer of signs. As we will see, the inferred cause, proposed by means of abduction, is pure content" (Eco, Theory, 221; emphasis added). The inferred cause is pure content in this abduction.

In Stephen Hero Stephen says, "I must wait for the eucharist to come to me" (30/36). In Portrait it is said of Stephen, "He wanted to meet in the real world the unsubstantial image which his soul image which his soul so constantly beheld. . . . He did not know where to seek it or

how; but a premonition which led him on told him that this image would, without any overt act of his, encounter him" (P 65). In Ulysses, on the first page this happens, appropriately between the whistles that signify the transubstantiation of the elements in the eucharist. The name of the event which "encounters" Stephen is Abduction. Joyce had been thinking of this image for about a decade, it seems: it was time well spent.

Encoding a Semantic Model: Mapping it onto an  
Expression Model

The next reference to "air" shows the effect topo-sensitive details have had upon Stephen's semantic coding. Before abduction Buck's hair is said to be "grained and hued like pale oak":

. . . air, gurgling in his throat and shaking his head. Stephen Dedalus, displeased and sleepy, leaned his arms on the top of the staircase and looked coldly at the shaking gurgling face that blessed him, equine in its length, and at the light untoussured hair, grained and hued like pale oak (U 3/5).

After abduction the semantic markers projected from the topo-sensitive details are encoded in Stephen's semantic model. Stephen sees Buck's "fair oakpale hair stirring slightly" (U 5/6). The reversal in the text's expression system indicates the effect abduction has had upon

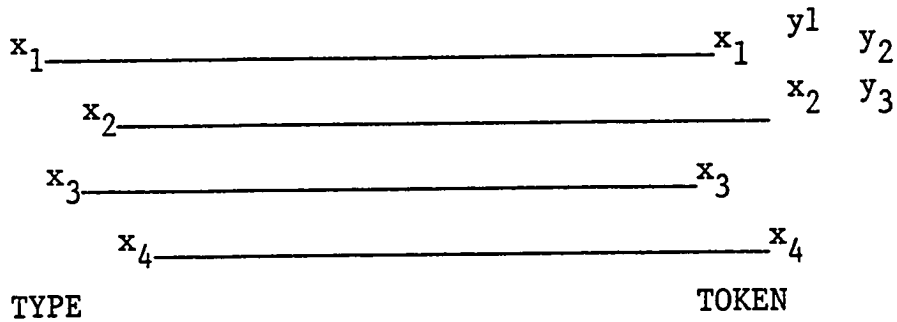
pre-linguistic manner of observing the surroundings. Concerning these semantic markers of topo-sensitive details (which are ruled by ratio difficilis), Eco explains: "all objects ruled by a ratio difficilis are so motivated by the semantic format of their content that it is irrelevant whether they have been correlated with it on the basis of previous experience . . . or whether the content is the result of the experience of 'inventing' the expression. . . . Therefore the motivated way in which they have been chosen . . . does not affect their mode of production according to a ratio difficilis; they are correlated to certain aspects of their sememes -- thereby becoming expressions whose features are also content-features, and thus projected semantic markers" (Theory, 219; his emphasis).

This explains the transparency with which the encoding of Stephen's semantic model occurs. Expression and content features share the same mode of production. Eco describes the mapping of a new material continuum under invention: "we may define as invention a mode of production whereby the producer of the sign-function chooses a new material continuum not yet segmented for that purpose and proposes a new way of organizing (of giving form to) it in order to map within it the formal pertinent element of a content-type" (Theory, 245). Stephen (and of course the Graphist) segment a new material continuum. Stephen perceives it, the Graphist scribes it. But the reader of the text who will focus his attention upon Stephen's sign-production comes upon the

problem of the type/token ratio. The expression system of the text can be seen as a type and the expression system Stephen produces a token of that type; on the other hand, to focus solely upon Stephen's sign-production is to interpret the topo-sensitive details as type and the expression-system he produces as token. The first case is motivated (but has not been previously recognized in criticism). The second, from a reader's perspective is not yet "motivated." Eco discusses this: "If one views a type (whether of content or of expression) as a set of properties that have been singled out as pertinent, the token is obtained by mapping out the elements of the original set in terms of those of the token set. This procedure can be represented by [the following table], where the xs represent the pertinent properties of the type and the ys non-pertinent and variable elements. In cases of ratio facilis mapping presents no problem; it simply involves the reproduction of a property using the same sort of material as that prescribed by the type. . . . The notion of mapping is somewhat more problematic in cases ratio difficilis, because the type of a ratio difficilis is a content unit, a sememe, and its properties are semantic markers, and are not in principle linked to any particular expression continuum" (Theory, 245-6):

The type-token figure represents the relationship between the text's expression system and Stephen's expression system--but only if the focus of the reader ignores the complex mapping involved in cases of ratio difficilis,





wherein as Eco states above, the semantic markers (within Stephen's ongoing sign-production) "are not in principle linked to any particular expression system." The latter is itself understood a feature of abduction which includes the possibility of error in its operation. Here are the roots of the narrative semiosis in the novel. From the perspective in which Stephen is found the process is dynamic and foregrounded. From the perspective of the system the process is itself a sign of a new way of thinking represented in the text. Even more interesting is the choice Stephen has in his sign-production: will he choose as the underlying system of his expression model spatial parameters or phonic parameters? Spatial parameters would be derived from the semantic features of the sun and visual context; phonic parameters would be derived from the semantic features of the whistles. Expressions may be realized according to either, "the only difference is that the sound feature governing the reproduction of a phenomenon are not content markers, while the spatial features governing the reproduction of a geometrical figure are. This . . . is exactly the difference between ratio facilis and ratio difficilis" (Theory, 247).

This is why the spatial [sun] rather than phonic [whistles] parameters are chosen, for with the spatial there is a direct correlation to content.

We will observe Stephen's choice of spatial rather than phonic parameters. But, looking ahead, this engenders the problem of expressing markers that cannot be verbalized (an example demonstrated in Stephen's attempt to use two gestures to express a jug of wine and loaf of bread [U 433/426]). Eco explains the significance of the problem: "Now if one considers [the following table] one notices that all of the cases of ratio difficilis concern content types in which the most important semantic markers are topo-sensitive, i.e., figural or vectorial properties. This brings us back to the problem . . . not every semantic markers can be verbalized. When semantic markers can be verbalized they have undoubtedly acquired a maximum of abstraction; previously culturalized and frequently expressed through verbal devices, they can even be arbitrarily correlated with other non-verbal devices . . . and through the mediation of verbal habits they can easily be detected. In these cases it is true that, as Barthes and other theorists say, non-verbal semiotic systems rely on the verbal one. But there are markers that cannot be verbalized, at least not completely, so that they cannot be conveyed by a metalinguistic definition verbally expressed" (Theory, 247). The table Eco refers to is provided below.

The problem of using spatial parameters as the basis of a new expression system is specifically its lack of a verbal

PHYSICAL LABOR required to produce expressions	RECOGNITION		OSTENSION		REPLICA				INVENTION	
	IMPRINTS				VECTORS				CONGRUENCES	
TYPE/TOKEN RATIO									PROJECTIONS	
			EXAMPLES	SAMPLES	FICTIVE SAMPLES	STYLIZATIONS			PROGRAMMED GRAPHIS STIMULI	
CONTINUUM to be shaped										
			SYMPTOMS	CLUES				PSEUDO- COMBINA- TIONAL UNITS		
Mode and rate of ARTICULATION	HETEROMATERIAL (MOTIVATED)		HOMOMATERIAL		HETEROMATERIAL (ARBITRARILY SELECTED)					
	Pre-established (coded and overcoded) GRAMMATICAL UNITS (according to different modes of pertinence)									Proposed undercoded TEXTS

equivalent. Because of this, topo-sensitive details can be interpreted in many ways. A detail can be seen as a text in itself. Thus the process involved in Stephen's construction of an expression-system, when viewed from any perspective of a reader except that which includes reference to the system of the text being described here, will seem disorganized or idiosyncratic, error-laden, and filled with chance - much like life itself because of the open-system involved. No previous recognition of Stephen's abductive process and production of an expression model is due, in part, to the nature of the spatial parameters involved.

Eco provides an illustration of the process Stephen undergoes. The process is from a perceptual model to a semantic model and from a semantic model to an expressive model governed by a ratio difficilis, depicted below. It must be kept in mind that because the markers are topo-sensitive, the correlation is motivated (see Eco, Theory, pp. 248-9).

Stephen is clearly involved in the process of "constructing" an expression model. Abduction, of course, initiates the process. The air, sun, and whistles, perceived by Stephen during the mocked transubstantiation of the eucharist, are mapped onto a semantic model. This semantic model becomes part of Stephen's expression model.

A change occurs in Stephen's expression system because of abduction. After "chrysostomos" Stephen sees Buck's "fair oakpale hair stirring slightly" (U 5/6), whereas previous to this projection of features of topo-sensitive detail onto his

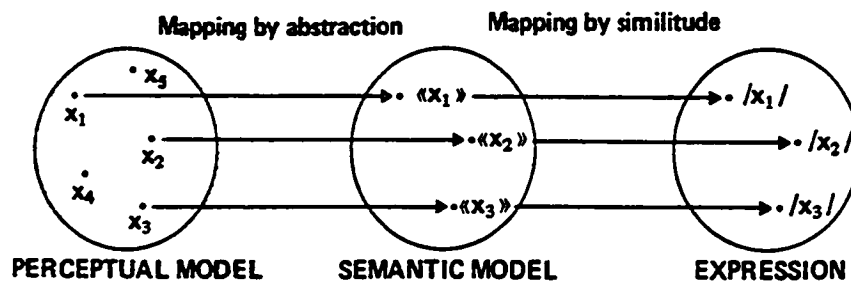


Fig. 6: From Perceptual Model to Semantic Model to Expression Model.

Source: Umberto Eco, A Theory of Semiotics, p. 249.

semantic model, Stephen had looked at Buck's hair "grained and hued like pale oak" (U 3/5). From one perspective, the change occurs in the text's expression system to depict the recognition Stephen experiences. Thus pale oak (U 3/5) becomes oakpale, a reversal and combination of lexical items to emphasize the insight Stephen has had (at "chrysostomos"). From another perspective, the change has occurred due to the physical labor exerted by Stephen to synthesize the insight with his previous thoughts and current perceptions. In this sense the change is iconic of Stephen's mental activity. Thus oakpale represents the change in his thoughts and "stirring slightly" represents the shift, or movement, or conjecturing. The "air was calm" -- the expression continuum exhibited no change -- when the expression system was figured

in the content system of the text (from the double 'gurgling' to the content cluster of sun, air and whistles). At this point, though, Buck's hair is "stirring slightly" and the "stirring" can represent the influence the process of Stephen is having upon the system of the text. As Hjelmslev explains: "a process and a system that belongs to it together contract a function . . . . A closer investigation of this function soon shows us that it is a determination in which the system is the constant: the process determines the system" (Prolegomena, 39); and the process of Stephen's sign-production which thus 'determines' the system is, then, given its "place" or representation or "mark" in the text. The reversal of "pale oak" to oakpale is an index of the conjecturing in Abduction. We can use the reversal to denote the encoding of a feature into Stephen's semantic model.

The air, which represents the expression continuum or the channel in a communication model, will be eventually be calm in Stephen's expression model, just as it is calm in the text's expression system. Stephen will consider material words which "float silently by through the morning peace" (U 9/11). But first we can, as does Stephen, witness an oppositional expression system.

Before air, or the expression continuum, is finally thought of as calm by Stephen, information transfer is caricatured by Buck, a caricature which relegates air to the status of an object. Stephen thus witnesses the opposite of air used as a continuum. After the 'black mass', Buck

informs Stephen that last night a fellow told him (Buck) that Stephen has "g.p.i." or "general paralysis of the insane," and immediately Buck "swept the mirror a half circle in the air to flash the tidings abroad in sunlight now radiant on the sea" (U 6/8). In Buck's caricature of information transfer, nothing connects the content-substance of his remarks to Stephen to the mirror which transfers the "tidings" in the air. The sun, which represents expression-material is exactly what is missing within Buck's system. The sun, outside of Buck's "message," is part of the hypothetical one Stephen considers. And the air is given no attention as an important medium but instead remains an object as it was when Buck blessed the air in the beginning lines of the episode. There is no material, neither audial nor visual, to act as a sign-vehicle for information transfer; his movement in the air literally "weaves the wind" (U 22).

#### Information Transfer: Pragmatic and Semantic

Joyce added an image of information transfer (along with the two whistles) to the galley proofs in 1921. The placement of the image -- in Stephen's sight -- before Buck's caricature of information transfer allows Stephen to recognize Buck's movements as a caricature of information transfer. Stephen:

stood up and went over to the parapet. Leaning on it he looked down on the water and on the mailboat clearing the harbour mouth of Kingstown (U 5/7; underlined portion added).

This image has been added to underscore the subsequent action of Buck's sweeping "the mirror a half circle in the air to flash the tiding [that Stephen has g.p.i.] abroad in sunlight now radiant on the sea" (U 8) as a caricature of information transfer. There is no audial or visual material to act as a sign-vehicle for information transfer in Buck's actions.

On the other hand, it has been added to keep Stephen's perceptions upon information transfer. The ship Stephen looked down upon is a very efficient means of information transfer: "as a transporting vehicle, a ship exchanges information from a source to a recipient, and vice versa, by traversing two dissimilar media, the land and the sea. As a sign it seems to be autonomous, independent upon the sea, while really remaining dependent upon its surrounding contexts, its ports" (Bunn, 18). What Stephen sees is clearly a vehicle of information transfer--a mailboat. That the mailboat is "clearing the harbour mouth of Kingstown" thus suggests the ends-means accommodation previously discussed. The ship Stephen sees provides a striking contrast to Buck's sweeping "the mirror a half circle in the air to flash the tiding [that Stephen has g.p.i. - general paralysis of the insane] abroad in the sunlight now radiant on the sea" (U /8). Stephen considers a more realistic means



of information transfer than Buck's, one based on a relationship between the natural and artistic process. The sea will be the mirror. The sun will have a functional role. The tidings, or the message, will be visible and rhythmic, and will complete a full circle. The sighting of the ship may have provided a literal explanation for the source of two whistles; they were added at the same time. But the ship also provides Stephen with an example of information transfer, and a means of evaluating Buck's caricature of information transfer.

What Stephen sees directly, it may be said, is not of much consequence. But in abduction, something is supposed "of a different kind from what we have directly observed, and frequently something which it would be impossible for us to observe directly" (2.640; emphasis added). Reasoning in abduction is not from particulars to generals, as it is in induction. Abduction "furnishes the reasoner with the problematic theory which induction verifies. Upon finding himself confronted with a phenomenon unlike what he would have expected under the circumstances, he looks over its features and notices some remarkable character or relation among them, which he at once recognizes as being characteristic of some conception with which his mind is already stored, so that a theory is suggested which would explain (that is, render necessary) that which is surprising in the phenomena" (2.776) Stephen's observations are important for this reason.

Stephen's observation of the mailboat and the flash of tidings from Buck's mirror are quite related to the surprising phenomena. Hypothesis "infers from facts of one kind to facts of another" (2.642); Stephen infers from facts of nature (as they have affected the circumstance or context he is in) to facts of another kind - facts of art. His sighting an example of information transfer is thus appropriate to his process of abduction. It is involved with natural elements and repreents the artistic process of information transfer. Buck has just asked for confirmation that the sea is "what Algy calls it: a grey sweet mother" (U 5/7). Information transfer, the action of the mailboat clearing the harbour mouth, depends upon the sea, labeled "mother" by Buck.

The newest model of information transfer gives primary importance to meaning relations wherein an individual moves from a univocal functional circle to a situational circle which is polysemic. The paradigm of the mediating process between the functional and situational circles is the symbiotic circle of mother and child. Because the paradigm operates throughout Ulysses as the basis of how a thinker/artist learns "from his mother how to bring thoughts into the world" (U 190/188), we will discuss the "new" model which confirms Joyce's own insight. As Eugen Baer relates, "the symbiotic circle, then, viewed as ontogenetic matrix of meaning, is in Peirce's terminology, a first, an absolute origin . . . . If, then, the adult comes full-circle after having gone through the many detours of otherness, after

having experienced the one-in-the-other structure of meaning, he then can return to a fundamental phantasy of the symbiotic circle as a true matrix of semiosis" ("Medical semiotics: A new paradigm," 181). Readers of Ulysses, of course, are aware that the first passages of what has been called direct interior monologue of the novel concern Stephen's relations with his mother (cf. p. 8, 11, 12, 24 in Telemachus; 28-9 in Nestor especially). But we have never connected these passages with the concerns of Stephen with meaning, sign-production and with the textual concerns of the semantics of information transfer. Stephen does "return to a fundamental phantasy of the symbiotic circle as a true matrix of semiosis" here - repeated in Circe, where he is shown to "eagerly" beseech May Dedalus for "the word known to all men" (U 581/566). And in Oxen of the Sun the utterance of "the Word" is simultaneous to the birth of Mrs. Purefoy's child: the birth of the paradigmatic speech situation is "the transformation, violent and instantaneous, upon the utterance of the Word" (U 422/415). Yet the transformation wherein "in an instant a flash rives their centres" (U 422/415) requires, in terms of the 'new paradigm' for information transfer based on the primacy of meaning, a "series of transformations" from the functional circle into "the individual reality of the situational circle" (Baer, "Medical semiotics," 177). And this is what is presented at this point in Telemachus: abduction causes a one-in-other structure of meaning and

Stephen returns to the symbiotic circle as the basis of polysemy, "a true matrix of semiosis."

The symbiotic circle of mother and child allows the phenomenal world to be hooked onto a variety of meaning systems as Baer explains. Necessary to this is the enactment of a secondary phantasy system in the situational circle: the programs of the secondary phantasy system are 'abstracted' from action "and sent through a variety of trial runs or simulations on an internal stage" (Baer, 177). The figures of the three paradigmatic circles are provided below:

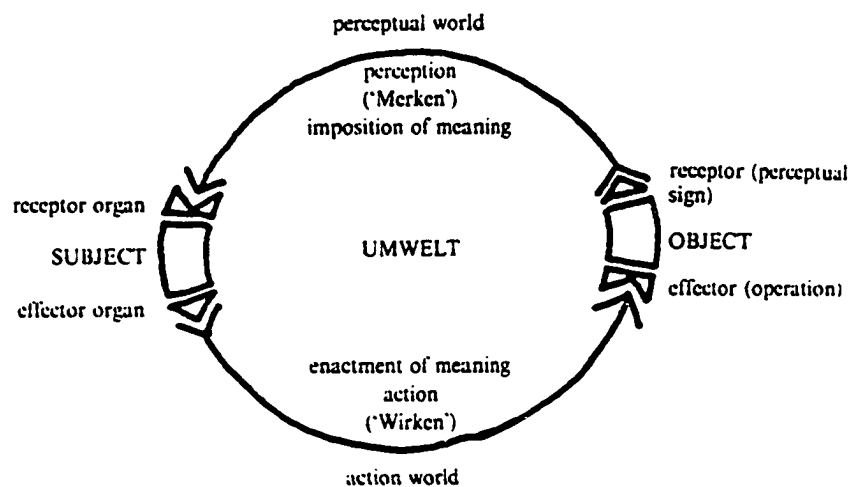


Figure 7. The functional circle (from T. v. Uexkull 1979a: 13). Glaserfeld (1979: 75), commenting on Power's (1973) statement that an organism 'behaves in order to control its perception', notes: 'The kind of knowledge our simple organism acquires by installing connections between error signals and activities, is, indeed, a form of construction, and since it deals exclusively with the proximal data of the organism's own subjective experience, one would be justified in calling it wholly subjective.'

Source: Eugen Baer, "Medical semiotics: A new paradigm," Semiotica, 36-1/2 (1981), 176.

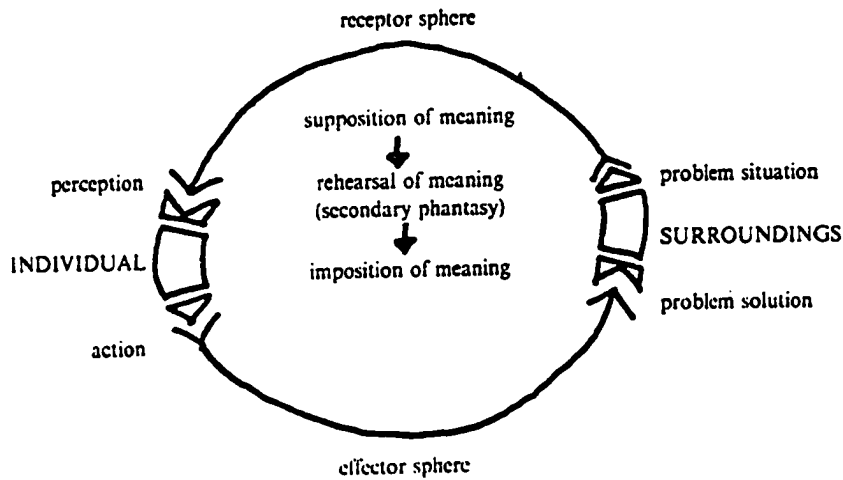


Figure 8. The situational circle (from T. von Uexkull 1979a: 16). In the situational circle the insertion of a secondary phantasy system allows an in principle infinite polysemy of individual reality.

Source: Eugen Baer, "Medical Semiotics: A new paradigm," Semiotica, 36-1/2 (1981), 178.

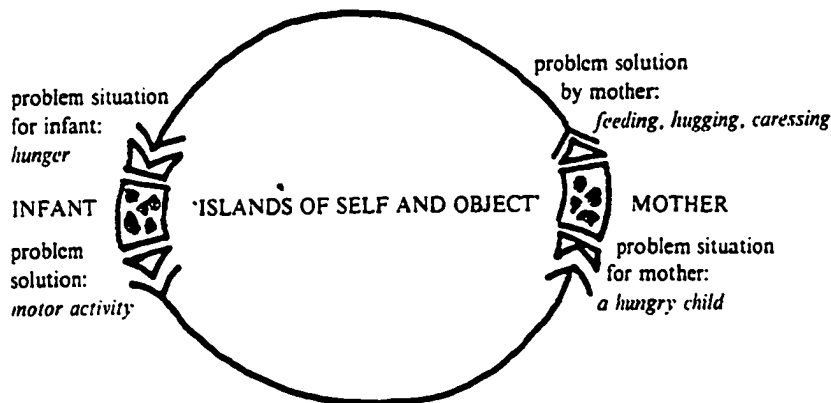


Figure 9. The symbiotic circle (from T. v. Uexkull 1979a: 29). In the symbiotic circle the black dots represent islands of moods (Stimmungen) in which nuclei of self and object (mother) are experienced in consubstantial unity.

Source: Eugen Baer, "Medical Semiotics: A new paradigm," Semiotica, 36-1/2 (1981), 179.

The functional circle expresses the one-in-the-other

structure of meaning. The extension of the functional circle to the situational circle requires the 'liberation of phantasy' (Baer, 177). The symbiotic circle of mother and child allows for the gradual transformation from the one-in-the other structure of meaning to the situational circle which allows, in principle, for an infinite polysemy of individual reality.

Of course, the "liberation of phantasy" of the text itself is found in Circe. The episode's source is here, where the "infinite polysemy of individual reality" as an important issue of abduction is first imaged.<sup>11</sup>

If we consider the end of Telemachus in light of this discussion of the functional and situational circles, we can see that the liberation of a phantasy system or abduction's "possible worlds" clearly appears between words Stephen considers early in the chapter ("Her eyes on me to strike me down. Liliata rutilantium te confessorum turma circumdet: iubilantium te virginum chorus excipiat" [U 12]) and reference to the sea:

He walked along the upwardcurving path.

Liliata rutilantium.

Turma circumdet.

Iubilantium te virginum.

The priest's grey nimbus in a niche where he dressed discreetly. I will not sleep here tonight. Home also I cannot go.

A voice, sweettoned and sustained, called to him from the sea (U 23/24).

"Te confessorum" is omitted in the conclusion of the episode because the secret is revealed/confessed. The move from the symbiotic circle to the situational circle is being represented (if we consider Stephen's process without recognizing the system of the text). And, from the point of view of the text, a return to the symbiotic circle as the source of infinite polysemy of individual reality is being represented. Abduction, which is based upon "the would-be," the future, clearly asserts a "possible world" wherein the secrets of individual and collective systems of reality can be revealed. It subverts the Kantian notion of priori principles of knowledge; it allows transcendental relationships to be exposed. The hint in the original conjecture would allow any and all things to be revealed in a double aspect as representing/represented. And the governing cohesiveness would be the process itself. But such a process of meaning, or succession of interpretants which are themselves signs requires the reduplication of an icon or index or symbol of the process itself within the succession for it to maintain a consistency of thought. Within this reduplication the "secret" is "revealed." And as Stephen, early in the chapter sees and hears of the ship and then of the sea (as mother) he is given in his perceptions the necessary connection between a sign-vehicle, process, and matrix of meaning. The ship and mother appear in juxtaposed

paragraphs (U 5/7) here and in the conclusion of the episode. Information transfer in Ulysses is based upon meaning-relationships rather than upon the presence of a voiced utterer whose presence gives meaning to a narration, plot, story, or discourse. The expression-continuum is meaning; the sign-vehicle of information transfer moves upon it. We have a meaning-based model of information transfer here in Telemachus.

"Air" is an object to Buck, and it is "air" used as an object which is shown to be part of Stephen's next thoughts. Buck's words about Haines create an Oxford scene in Stephen's mind:

Young shouts of moneyed voices in Clive Kempthorpe's rooms. Palefaces: they hold their ribs with laughter, one clasping another, O, I shall expire! Break the news to her gently, Aubrey! I shall die! With slit ribbons of his shirt whipping the air he hops and hobbles round the table . . . (U 9).

Stephen includes the image in his thoughts of their ragging of Clive Kempthorpe. The image is part of the inversion and falsity of their behavior.

After this the first reference to wind appears: "A light wind passed [Buck's] brow, fanning softly his fair uncombed hair" (U 8/9). All subsequent references to wind are linked to Buck's expressive system as it is opposed to



Stephen's. Buck's is increasingly active; Stephen's becomes calm. Buck later tells Haines: "'That's fold . . . for your book . . . Five lines of text and ten pages of notes about the folk and the big fishgods of Dundrum. Printed by the weird sisters in the year of the big wind'" (U 13/14). And after Buck chants the Ballad of Joking Jesus, "he capered before them down towards the forty foot hole, fluttering his winglike hands, leaping nimbly, Mercury's hat quivering in the fresh wind" (U 19/21). Gradation from air as stirring slightly to a fresh wind is consistent with the process of Stephen's conjecturing about the materials of the artistic process. Buck's expressive system takes on ominous overtones because it is based on immateriality. Stephen is not cognizant of this conjecturing we have described. But the encoding of a semantic model based on perceptions (especially perceptions in the context of abduction) is pre-linguistic and, by definition, is not conscious activity. The arrangement of details in Telemachus allows a reader to experience the movement from the original surprising phenomenon to the creation of Stephen's expression model. Stephen uses the pertinent details from the context of the surprising phenomena to develop a conjecture and finally an explanatory hypothesis.

Stephen's process of abduction includes the image of a possible explanatory hypothesis for the surprising phenomenon:

Young shouts of moneyed voices in Clive  
 Kempthorpe's rooms. . . With slit ribbons of his  
 shirt whipping the air he hops and hobbles round  
 the table, with trousers down at heels, chased by  
 Ades of Magdalen with the tailor's shears. A  
 scared calf's face gilded with marmalade. I don't  
 want to be debagged! Don't you play the giddy ox  
 with me!

Shouts from the open window startling evening in  
 the quadrangle. A deaf gardener, aproned, masked  
 with Matthew Arnold's face, pushes his mower on the  
 sombre lawn watching narrowly the dancing notes of  
 grasshalms (U 7/9).

This is a reversal of spatial and phonic relationships in the  
 original context of the two responding whistles through the  
 calm (on the first page). The intrusion of shouts from  
 Kempthorpe's room to the quadrangle is from within to without  
 (whereas the whistles broke in from without to within the  
 tower). The circular space of the tower is contrasted with a  
 quadrangular one.

In his abduction, Stephen has an image of the trans-  
 formation of noise into art. The intrusion of disorganiza-  
 tion, disorder, or entropy (which is termed "noise" in  
 information theory) into the sphere of structured information  
 could not be more appropriate to such an image. Art  
 transforms noise into information: "it complicates its own  
 structure owing to its correlation with its

environment, . . . New structures which enter into a text or the extra-textual background of a work of art do not cancel out the old meanings, but enter into semantic relations with them" (Lotman, Structure, p. 75). In the image the extra-textual background is shown as it is transformed and enters into new semantic relations, new structures.

The deaf gardener is himself an image of the kind of artist suggested in the hypothesis, wherein the natural process is like the artistic process. The deafness corresponds to the spatial rather than phonic parameters which would allow for a new expression system based on "a possible physical causality functioning as their content" (Eco, 221, discussed above). The difference between *ratio difficilis* and *ratio facilis* is based on whether spatial or phonic features will govern the reproduction of the phenomenon into a content marker. The former is involved in the creation of a new expression system. The generative process of the potential work is found in the image of "gardener" who oversees the growth and development of a material, living object through time.

The "startling" itself is the beginning of the extended image of the gardener, just as the "surprise" marked the beginning of the conjecture about the artistic process on the first page. The gardener combines two seemingly impossible activities: he "pushes his mower" and "watches narrowly the dancing motes of grasshalls." The first is active, sequential, and linear (like writing); the second is contemplative,

non-sequential, and relational (like thought in Musement). If one imagines the deaf gardener watching the dust of the stems of blades of grass dancing one can understand the impossibility of its being literally combined with the simultaneous pattern of mowing. But they can be combined if one neglects the conventions of time. And this is exactly what is neglected when Philip, or any term, or logical atom of thought is further divided. Upon the division of Philip into "Philip Drunk" and "Philip Sober" time is shown to be a method or process which unifies experience which is otherwise divergent. The mask of Matthew Arnold will be worn by Philip Drunk and Philip Sober when Stephen realizes that his "voice" as an artist will be eliminated from the work he will write.

What Stephen works out is still being discussed in critical circles. Barthes writes that "the voice is what is really at stake in modernity."<sup>12</sup>

He explains that "writing begins at the point where speech becomes impossible" (Image/Music/Text, p. 190). What has been presented to Stephen in abduction is a means of art which allows voice to be shown as it affects things rather than as voiced utterances of a present persona (called the narrator) used to imitate what is. To allow voice (or language in its synchronic aspect) to be shown in its creation of what is and of what will be, words themselves need to be materially presented. Voice itself becomes an object of contemplation, as we shall see. The mask thus becomes a means of divorcing the voiced from the unvoiced

meaning of words. When Philip Drunk and Philip Sober appear wearing the masks of Matthew Arnold, they have seemingly divided the dual activities of the gardener between themselves--the analytic and synthetic.

Stephen's abduction here includes the image of a possible explanatory hypothesis for the surprising phenomenon. He observed the effects of the sun, which made the mocker into the mocked (the subject of narration into the process by which it is narrated). This surprising fact, in context, and the resulting inference of abduction, leads Stephen to consider an explanatory hypothesis, which if it were true, would make the surprising fact a matter of course. The image of the gardener presents elements of an explanatory hypothesis. One element is that something outside the immediate context of meaning can be included within it through its effects, which thus makes the immediate context double (incongruous with itself). The deaf gardener is outside the scene imagined about the ragging of Kempthorpe; he engages in two activities, much like the sun which upsets and synthesizes the scene of Buck's black mass. But Stephen only has the elements of the hypothesis present in an image. It has not been worked up into a proposition. Yet the beginning of abduction has begun. Upon reflection, we see the manner in which the perceptions have been encoded into a semantic model.

### Stephen's Expression Model

Stephen's expression model appears after the second set of interchanges between Buck and Stephen concerning "the mother." The first was general -- the sea, called a "grey sweet mother" by Buck (and it is sarcastic, as Buck with "great searching eyes" announces that his aunt thinks Stephen killed his mother). The second is a specific countercharge. Buck has asked Stephen "'Why don't you trust me more? What have you up your nose against me?'" (U 7/9); and Stephen responds: "'Do you remember the first day I went to your house after my mother's death? . . . You were making tea . . . and I went across the landing to get more hot water. Your mother and some visitor came out of the drawingroom. She asked you who was in your room. . . .You said . . . 0, it's only Dedalus whose mother is beastly dead" (U 8/10). Buck assumes he had offended the memory of Stephen's mother. But Stephen makes an important announcement:

- I am not thinking of the offence to my mother.
- Of what, then? Buck Mulligan asked.
- Of the offence to me, Stephen answered. (U 8/10)

Stephen's statement places him in the situational circle, outside the symbiotic circle. It allows for the infinite polysemy of Stephen's individual reality, for Stephen's "imposition of meaning," for his awareness of himself as

creator of his individual reality. The gradual move from the symbiotic to situational circle is part of the process of abduction.

Stephen is given leave or time alone to reflect on the original conjecture which equates art and nature: Buck has been summoned by Haines. But before Buck descends, he points to the meaning-laden surroundings:

--Look at the sea. What does it care about offences? . . .

His head halted again for a moment at the top of the staircase, level with the roof:

--Don't mope over it all day, he said. I'm inconsequent. Give up the moody brooding.

His head vanished but the drone of his descending voice boomed out of the stairhead:

1        And no more turn aside and brood  
          Upon love's bitter mystery  
          For Fergus rules the brazen cars.

Woodshadows floated silently by through the morning peace from the stairhead seaward where he gazed. Inshore and farther out the mirror of water whitened, spurned by lightshod hurrying feet. White breast of the dim sea. The twining stresses, two by two. A hand plucking the harpstrings merging their twining chords. Wavewhite wedded words shimmering on the dim tide (U 9/11).

Stephen's thoughts are focused on the process of artistic construction, which are preceded by his observation of the process of nature and paired with it.

The line "White breast of the dim sea" (from Yeats's "Who Goes with Fergus?") weaves observed art and nature together. The "twining stresses, two by two" is thus applicable to the stresses of the poetic line and to the whitened waves of water inshore and farther out.

The "twining stresses" can be, in addition, understood as a "careful direct interpretation of perception, and more emphatically of such perception as involves surprise [where] the perception represents two objects reacting upon one another" (5.55). According to Peirce "the phenomenon of surprise" emphasizes "a mode of consciousness which can be detected in all perception, namely a double consciousness at once of an ego and a non-ego directly acting upon each other" (5.52). The action of experience itself "takes place by a series of surprises" (5.51). Thus, the twining stresses -- simultaneously referring to the observation of a poetic line and to the observation of whitened waves near and far - also reflect the unique kind of thinking Stephen is experiencing.

The connection between facts of nature and facts of art is shown to be the governing principle of Stephen's thoughts when he is left alone.

These unvoiced thoughts show Stephen's concern with the elements of various meaning systems -- perception, of memory, poetic construction, and others. We can understand his



thoughts in terms of the situational circle, and also in terms of what Eco calls radical invention, or "bypassing the perceptual model, and delving directly into the as yet unshaped perceptual continuum, mapping his perception as he organizes it" (Theory, 254). But, more importantly, the original conjecture concerns the relation between art and nature, and this is the proof of its presence in Stephen's more conscious thoughts. As Stephen delves "directly into the as yet unshaped perceptual continuum, mapping his perception as he organizes it"; he "invents" an expression-system. The expression-system, rather than a spontaneous generation, is a result of the previous associations in his semantic model between sun and sememes /+cause/ and /+visible/ and between the two responding whistles and the sememes /+audial/ and /+ or - source/. In his thoughts Stephen now associates the sun with the expression-material and doubling with the creation of expression-form. Thus his perception, which is in part the perception of "Who Goes with Fergus?", a literary perception, is organized by the imposition of meaning found in the semantic model. The expression continuum is governed by "A hand plucking the harpstrings merging their twining chords" -- and if we recall the expression continuum of the text we can recognize the isomorphism between the two. In both there exists an active relationship between the graphist (who writes, causes repetition, "plucks") and the materials (the harpstrings, the sounds of words) of his craft. Earlier we discussed the hand

of the graphist which had caused the manipulation of the expression system with the repetition of the word gurgling; here the thought of the hand includes the same kind of manipulation, the same kind of doubling. The expression continuum thus includes the semic marker attributed to the first reference to air: /+dynamic/ and /+agent/. The result is a "merging" of their "twining chords" -- a calmness or "harmony" such as "the calm" through which the two whistles respond. The morning peace through which Stephen now gazes represents the calmness of the expression-continuum, the stasis found in aesthetic contemplation and musement.

Because of the "system" in Stephen's expression model, the content is polysemic. Stephen recognizes the relationship between part and part in Yeats' line: the "twining stresses" in "White breast of the dim sea." But he then also recognizes the relationship of part (or parts) to the whole -- the "twining stresses" can become "twining chords" only through the influence of the whole, a constructed whole, evident with his thought of "a hand" of the artist but also found in the "structural rhythm" which he will discuss later. Stephen will later be concerned with "rendering visible . . . the first entelechy, the structural rhythm" (U 432/425) and considers the use of "gesture" which has "the gift of tongues" -- and we not only find another source of that later thought here in this early passage but also the equivalent of gesture in topo-sensitive detail which are physical phenomenon working as deictic or anaphoric "shifters." The

"wavewhite wedded words shimmering on the dim tide" which Stephen considers next -- in other words, the expression material -- is both visible and part of the structural rhythm: with the semic marker /+cause/ because the expression material is not univocal but polysemic. The words are polysemic only because of the system created by the artist who "weds" the parts together to form a whole. In the system a word is not single for it is part of a dynamic relationship with the stresses of other words with which it is "twined." Rather than a note a "chord" is created, a system of meanings and potential meanings. The dynamic relationship inherent among the elements of a well-constructed system places all the parts in the "vibration" of the system (as Elijah states, "Are you all in this vibration? I say you are." And later he adds: "Call me up by sunphone" [U 508/497]). Overtones are produced. "Two notes in one" (U 268) -- a note and an overtone, or a polysemantic range for a word -- is possible because of the precise system of twining stresses (stresses not content, arrangement not plot). "White breast of the dim sea": the "twining stresses" are "twining chords" only through the influence of the whole, evident in his thought of "a hand." And in such a whole, the stresses are applicable to the two different planes: the natural and artistic. The "hand" which "merges" the pairs is the hand of the artist/hand of God.<sup>13</sup> The hand stands in relation to the "pair two by two" as the mind stands in relation to the form of forms. Aristotle writes,

"It follows that the soul is analogous to the hand; for as the hand is a tool of tools, so the mind is the form of forms and sense the form of sensible things."<sup>14</sup> The hand thus is that of a graphist, not an utterer. The hand, like the mind, is invisibly and retrospectively found as creator.

"If thinking is like perceiving, it must be either a process in which the soul is acted upon by what is capable of being thought, or a process different from but analogous to that. The thinking part of the soul must therefore be, while impassible, capable of receiving the form of an object; that is, must be potentially identical in character with its object without being the object. Mind must be related to what is thinkable, as sense is to what is sensible," Aristotle writes in On the Soul.<sup>15</sup> Stephen's thinking here is very much like perceiving; and the process mentioned by Aristotle contains the basic ideas of Abduction (see 2.776).

Stephen considers a process where "expression and thought are one."<sup>16</sup> The sound of the "plucking" (which connects the 'pairs, two by two') and the "wavewhite wedded words shimmering on the dim tide" are expression and thought. We have a "rendering visible . . . [of] the first entelechy, the structural rhythm" (U 432/425). The hand which plucks the harpstrings and merges the twining chords will later be considered as the hand of the potential-made-actual artist Stephen - but by that time the play of Musement will have reached the inductive stage, and Stephen will himself be considered in terms of the appraisal of the hypothesis. And

in as much as Bloom is an application or examination of the hypothesis in the second (deductive) stage of inquiry in Musement, his hand, like Stephen's is said to be "hurt" in Eumaeus (see p. 633, 641). Neither Stephen nor Bloom is the 'actual' author.

If we consider the connotations of the objects within Stephen's own analysis of the elements of an artistic system the "value-forms of styles, personality" and other aspects of socio-linguistics, which Hjelmslev mentions (Prolegomena, 125), shimmer on the breaking wave of parole. The waves are the white breasts. The waves are "lightshod hurrying feet." Together they derive from the "mother" and "spurn" the mother. Stephen is, in one sense, considering the "fundamental phantasy of the symbiotic circle as a true matrix of semiosis" (Baer, 181, discussed previously). It is the "seamorse" which compliments his expression model, for the seamorse contains the meaning content, a simple code. Thus the "infinite polysemy of individual reality" of the situational circle which Stephen the adult has attained is inherently connected to the ability of an artist to create a relational system of meaning which weds wavewhite words in twining, polysemic chords. The expression system he creates and the "ontogenetic matrix of meaning" which he looks upon require one another.

Stephen's consideration/construction of an expression system has been credited to a second narrative voice. Hugh Kenner, as we know, ascribes the passage to the Muse who

elevates the style. Rather than an elevation of style we have an examination of it. Rather than an utterance of a second narrator who is "a virtuoso of the Uncle Charles Principle" (Joyce's Voices, 71) we have the thoughts about an hypothetical, possible expression system from a character who, unaware of the expression system of the text he is in, makes the novel we are reading more understandable. And all that "fussiness" about detail which Kenner relegates to the first narrative voice is actually there for the purpose of clarifying the structure and system of the text for a reader.

### The Process of Narrative Semiosis

In the previous section we have discussed Stephen's consideration (construction) of an expression-system. The paragraph which contains it is part of the text's expression system. What is the relationship or function between the two expression-systems? Is it a static or dynamic isomorphism, an unimportant self-relexive detail? The answer has been already provided in part in our discussion of the increasing intensity of the "air" in the progressive stages of Stephen's recognition of the elements of an expression-system. We have previously discussed the influence the process of Stephen is having upon the system of the text: "a process and a system that belong to it together contract a function. . . . A closer investigation of this function soon shows us that it is a determination in which the system is the constant: the process determines the system" (Hjelmslev, Prolegomena, 39).

For this process to determine the system requires that there be a dynamic rather than static relationship between the two: at each occasion or event in the text where we can note such a process determining the system a change in each occurs -- the process can be shown to be 'deconstructing' the text while the text's system seems to increase in complexity. In Chapter Two we have considered how the 'steady state' or dynamic equilibrium' of each episode is "achieved by the self-regulating codes of the open system, where each sub-assembly receives and sends information to and from the other levels" (Bunn, 144). In a well-constructed system a reader and/ or the character Stephen who is involved in understanding relationships of such a system has "a glimpse of the end of a problem even as he becomes aware that a problem exists" (Bunn, 158). This "glimpsed end," which is characteristic of abduction, is built into the text with words ("Chrysostomos") and thoughts about the hypothetical end. And as we have noted (especially of Stephen who desires to write the text promised by Portrait): "If in the order of desire the end precedes the means, then one of the pair of helices [of a widening gyre, or well-constructed system] implies that he is looking back upon the problem from the hypothetical dimension of the semiotic model even while he is, in the other helix, striving inductively with analytic means towards that end. In that stance one is therefore exploring the relations within and without the system to be learned, so that its solution simultaneously opens out to

another horizon while it satisfactorily closes another boundary" (Bunn, 158-9; my emphasis). At this point in Telemachus, at Stephen's consideration of the expression-system just discussed, we can say that the first "subassembly" or portion of the 'steady state' of Telmachus is completed - which means that information is sent to and received from the other levels, thus closing the boundary of the first portion and opening out to another horizon of expectations. The first section of Telemachus, which ends at Stephen's consideration of an expression system, is best understood as RECOGNITION. The topo-sensitive details are, by definition, "motivated" heteromaterial. Our previous discussion of the first section can be presented in the following illustrations. The sign function between the expression system of the text and the content system of the text is:

$$\frac{E}{C}$$

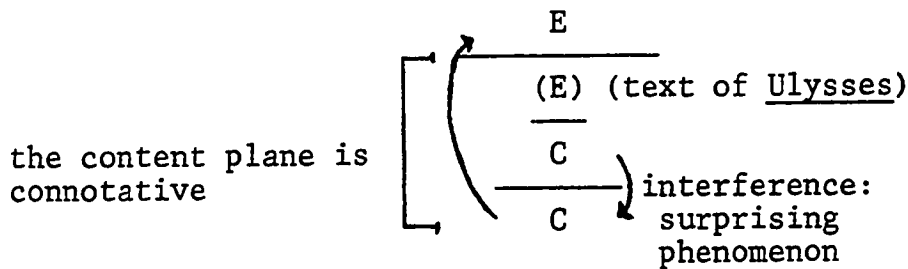
But when the expression plane is made up of the content plane and expression plane of the previous denotative semiotic, we have a connotative semiotic:

$$\frac{\frac{E}{C}}{C}$$

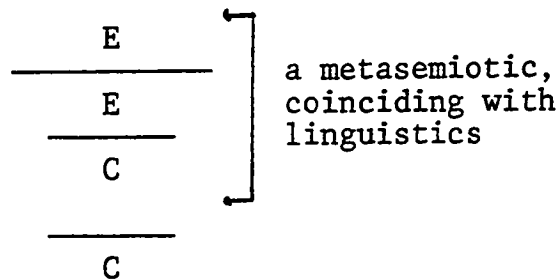
(For most literary theorists, the above is a definition of literature: see the survey by Costanzo Di Girolamo in A Critical Theory of Literature [6-9].<sup>17</sup>) The use of



topo-sensitive detail makes the content plane seem motivated by the denotative semiotic of the expression plane. But for Stephen (who is not aware of being in Ulysses) the surprising phenomenon questions Buck's expression system and poses the general question of expression systems (and of causality, intentionality, etc.). Abduction begins:



A theoritician would label the above graphic as a metasemiotic of the connotative semiotics, whose



content plane is a connotative semiotic. But for Stephen, who would be wondering about the physical cause (natural? organic? inorganic? intentional? etc.) and aspects of the suprising phenomena a connotative semiotic, or semiotic that is not a language seems to be operating. Stephen's encoding of a semantic model is given in the text as a reversal of previous lexical items and becomes evident in Stephen's use of the semantic markers for air in a mental 'rewrite' of a situation (The Oxford Scene). This is graphically depicted as:

$$\begin{array}{c}
 E \\
 \hline
 E \\
 \hline
 E \\
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 C
 \end{array}$$

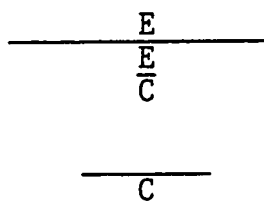
in that the content plane is a metasemiotic (has linguistic elements of Stephen's semantic model and subsequent use of it in his mental language). The expression plane of the text is becoming more isomorphic with the content plane, which is a metasemiotic, because of the topo-sensitive details and the labour and materials of sign-production Stephen is involved in.

Information transfer passages appear in the text at this point. The process Stephen, at this point, has completed has allowed him to construct an expression model based on what to him is a 'natural process' and what to a reader is a process based on a connotative semiotic whose content plane is connotative (i.e. based on topo-sensitive details). Meaning this is a process within a relational system, not an imitation of dyadic representation. It necessarily includes the interpretant, which itself is a sign, in the process.

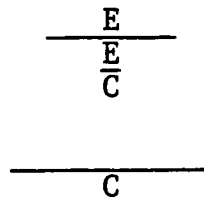
$$\begin{array}{c}
 E \\
 \hline
 E \\
 \hline
 E \\
 \hline
 C
 \end{array}
 + \frac{E}{C}$$

We have reached the point of information transfer or equivalence between the system and the process of the text, a

point wherein a dynamic equilibrium is reached, a point where "extremes meet" (U 493 - the example on this page is "Jewgreek is greekjew"):



Content plane is  
connotative at Beginning  
of Ulysses



Expression plane is  
connotative at Stephen's  
expression model

Perhaps this is why Hugh Kenner has selected the paragraph containing Stephen's expression model as a primary example of the second narrative voice. Kenner's perceptive remarks assert a similar relationship. To deny Stephen possession of his thoughts (such as "the twining stresses, two by two") does seem to require a double narrator one of whom possess the idiom and skill which Stephen covets. Such such an approach, though, also seems to deny a functional relationship between what is posited as the first and the second narrator, whereas understanding the expression plane as connotative allows us readers to understand the functional use of details in the text, the relationship between Stephen's thoughts and the "direction" of the text (or the manipulation of the expression plane of the text), and other matters such as Joyce's additions to the early version of Telemachus in The Little Review. Of course, Joyce himself would not have used such heavy descriptive terminology to explain so few pages of his first episode. And here an

apology is extended to the reader of these pages for the use of it, with a wish that the clarifications about what has been said about Telemachus (and its subsequent criticism) have been worth the reader's effort.

To continue with the next section of Telemachus is to open out to another horizon, and it should come as no surprise that the horizon is so bright that "the smokeplume of the mailboat," or the trace of narrative semiosis, is made "vague on the bright skyline" Stephen sees in a nearly empty bay (U 20). As in a mobius strip (of a double helix, if one wishes to continue with the previous thought of the system of the text) the text seems to have made one revolution with a twist -- the connotative content plane is part of an expression plane which is connotative. The text is the same yet seems new, continuing in its direction -- and in these next sections direction itself is topo-sensitive. The motivated heteromaterial, to the reader and to Stephen, has been recognized as motivated. The text will possess the characteristics of ostension; Stephen will understand "homomaterial"; he will perceive himself as double. Abduction will become a more conscious process to Stephen. He will be further inclined to accept the hypothesis.

#### From Recognition to Ostension and Replica

Immediately after Stephen's expression model there are paragraphs about Stephen's mother. After he reaches what can loosely be called a catharsis, Buck Mulligan appears again to

call him down from the tower. Having constructed an expression model, he is able to give expression to the "meaning of his mother" and understand his relationship with his "new" self: "I am another now and yet the same" (U 11/13). Stephen's process of abduction initiates the new idea which places things (his mother, himself, his role as an artist) in a new perspective. When Stephen does "return to a fundamental phantasy of the symbiotic circle as a true matrix of semiosis" (Baer, 181), aspects of the original context of conjecture are seen:

I am the boy  
That can enjoy  
Invisibility (U 11).

That "birdcage hung in the sunny window of her house when she was a girl" (U 10/11) is not thought of as empty because Stephen is in the position of the invisible bird (and possession of a new expression system) and can imagine the song -- which old Royce sang in the pantomime of Turko the terrible: "I am the boy that can enjoy invisibility." The 'natural' process to Stephen is the basis of his "artistic" process; and as his mother is "folded away in the memory of nature with her toys" so is she now "folded into the 'meaning' of his art" - and he understands the dream of her he has had: he will 'hear' her "mute secret words" (U 12) - not only in Circe where he addresses her "in vocative feminine" (U 587/572) [because this "'mother language'"]

(Baer, 181) is the ontogentic matrix of meaning of which he is a part]. But he also 'hears' her "mute" words in the next lines of Telemachus:

Ghoul! Chewer of corpses!

No mother. Let me be and let me live.

--Kinch ahoy!

Buck Mulligan's voice sang from within the tower. It came nearer up the staircase, calling again. Stephen, still trembling at his soul's cry, heard warm running sunlight and in the air behind him friendly words (U 10/12).

Stephen has just experienced the production of an expression system and finds the MATTER of content. He "HEARD WARM RUNNING SUNLIGHT." Stephen understands the meaning of sunlight as it correlates with the artistic model/process. This is why he "hears" the sunlight. A visual expression material (glyphic) allows the "causal" agent to remain "invisible," but does not deny its reality or its independence. The "running" character suggests a temporal aspect, such as that found in the process of the hypothesis. Its warmth suggests a life, a self-generative ability. Because of this "the AIR behind him" contains "friendly words." The past is part of the process of the present, just as the future is part of the present. The expression-continuum (air) is "behind" him in as much as it has been understood; Stephen has glimpsed the end or considered the solution to

the problem of artistic expression of meaning (i.e., has exhibited the ends-means accommodation previously discussed in terms of the system and process of the novel); and such "friendly words" refer to two different levels of the text - the "mute words" of his mother behind him figuratively, and the "spoken" words of Buck Mulligan literally behind (and below) him which are "friendly" because Buck may be sounding that way to Stephen or, more probably, because Stephen need no longer 'brood' and can thus 'hear' Buck's words as signs.

His need for Buck's friendship is over -- on the next page the nickel shaving bowl, shining, is a possible sign of "forgotten friendship" because Stephen can think from the perspective of the day having been completed (another instance of ends-means accommodation): "Why should I bring it down? Or leave it there all day, forgotten friendship?" (U 11/13). Stephen is obviously imagining looking back upon the moment from a hypothetical future and considering his own non-spoken actions (gestures) as meanings.

Ostension accounts for the difference(s) between textual items before Stephen's expression model as opposed to those found after it. According to Eco, "ostension occurs when a given object or event produced by nature or human action (intentionally or unintentionally and existing in a world of facts as a fact among facts) is 'picked up' by someone and shown as the expression of the class of which it is a member" (Theory, 224-5; his emphasis). Stephen considering the nickel shaving bowl is exhibiting a different type of

physical labor required to produce expressions (cf. Eco's table cited previously). It is different than recognition. Stephen now finds the expression is made of the same stuff as the referent: "the nickel shaving bowl shone, forgotten": "Why should I bring it down? Or leave it there all day, forgotten friendship?" The shaving bowl is "the expression of a class of which it is a member."

In this section of Telemachus, ostension operates as a confirmation of whatever was suggested in abduction. Thus the second section of Telemachus is best described as ostension. Examples, samples, fictive samples these terms describe the type/token ratio in ostension. And they predominate. The shaving bowl is a 'fictive' sample in as much as it is considered from a different temporal perspective: after "all day" it will have been what it is, a forgotten shaving bowl. But Stephen continues. He picks up the bowl, "feeling its coolness, smelling the clammy slaver of the lather in which the brush was stuck." And he thinks: "So I carried the boat of incense then at Clongowes. I AM ANOTHER now and yet the same. A servant too. A server of a servant" (U 11/13 emphasis added). From a synchronic rather than a diachronic perspective (and here we realize how important the semantic or paradigmatic discovery of the "meaning" of his "mother" has been in terms of the progression of the text) he is the same. Then he was a literal servant, to the priest who is the servant of God. Then still a literal servant of a servant. Now, also, he



finds himself the same. Not only because of his relation to Buck: that will be forgotten from that hypothetical perspective. But also, and more importantly because of what we have previously discussed, because of his discovery of the "matrix of semiosis", or, put in other words, because he realizes his actions and words (his self) as expressions (servers) of meanings (which are servants) which he himself can impose (or expose): this is the definition of the situational circle. Peirce would call it self-control. The ostension is found in Stephen's placing his behavior in the class of what can be controlled. In terms of the text, which Stephen is unaware of being in, Stephen has been, is now, and will be the server of the process of the text whose system is servant to his presence as server (determined by the process).

"A server of a servant": this will stick in his mind. Later it is the "third master":

--After all, I [Haines] should think you are able to free yourself. You are your own master, it seems to me.

--I am the servant of two masters, Stephen said, an English and Italian.

--Italian? Haines said.

A crazy queen, old and jealous. Kneel down before me.

--And a third, Stephen said, there is who wants me for odd jobs.

--Italian? Haines said again. What do you mean? (U 20/22)

Radically different is "server of a servant" from "servant" of a Master: Stephen becomes conscious of a means of controlling the future, and the intervening nine pages explain the change. Those pages contain the next labour of sign-production in this process of abduction: replica.

. . .I am another now and yet the same. A servant too. A server of a servant.

In the gloomy domed livingroom of the tower Buck Mulligan's gowned form moved briskly about the hearth to and fro, hiding and revealing its yellow glow. Two shafts of soft daylight fell across the flagged floor from the high barbicans: and at the meeting of their rays a cloud of coalsmoke and fumes of fried grease floated, turning (U 11/13; my emphasis).

Stephen descends the staircase from the top of the tower to the livingroom. He, who considers himself another, yet the same, carries the shaving bowl down with him. The shaving bowl, a fictive sample, is laid to rest on the locker. But none of this is stated. Fictive samples (see Eco's table) come under two headings: "they are the result of a double labor, since something must be replicated in order to be shown (ostension)" (Theory, 220). The shaving bowl does come under ostension (in relation to Stephen, above) and, in

relation to the text, under replica in as much as the expression system has, in part, been replicated.

And it is this coincidence of the two expression systems that is shown replicated; in as much as ostension "represents the most elementary act of active signification and. . . is the one used in the first instance by two people who do not share the same language" (Theory, 225). Until now, the two expression systems have not been integrated. Though Stephen has constructed an expression system based on, for the most part, characteristics of the natural process in his domain, the text has not been necessarily based on the same principles. The text has been influenced by the "process" exhibited by Stephen, but not in as much as it has used those same characteristics as part of the system of the text. The doubling of sunlight can be seen as ostension from the point of view of text, and as replica from the perspective of Stephen. The expression systems of Stephen (hypothesized) and of the text are now related as two people sharing meaning through signs though their language is different.

At the underscored passage, "Two shafts of soft daylight fell across the flagged floor from the high barbicans: at the meeting of their rays a cloud of coalsmoke and fumes of fried grease floated, turning" the materials which Stephen previously used to construct his expression system are integrated into the text's system. On the one hand, we can explain this integration as an instance of the process influencing the system of the text. The process has included an

expression model based on a correlation between expression material and the semic items of the sun. The system "picks up" (as in ostension) that 'event' or correlation and "shows" it as the member of its own class (remember, "ostension occurs when a given object or event produced by nature or human action [intentionally or unintentionally and existing in a world of facts as a fact among facts] is 'picked up' by someone and shown as the expression of the class of which it is a member"). This influence of the process upon the system could not be shown without the replication of sunlight in Stephen's model into "two shafts" of "daylight." On the other hand, we can explain the integration as a more complex instance of the process responding to its surroundings which have been made simpler: simpler in that the context of the surprising phenomenon had both spatial and phonic material as potential aspects of an expression system, whereas now the doubling is a feature of the sun only.

Stephen sees an image which more precisely fits the expression system of the potential (and the present) text. The two expression substances subsumed by the same form at gurgling are quite like the two rays joining. We have here an icon, one which would lead Stephen to accept his original conjecture.

A glimpse ahead emphasizes the importance of this passage of sunlight doubling, its rays meeting, a meeting which makes visible the turning of the residue or trace of previous action. In Circe: "From a corner the morning hours

run out . . . Nimbly they dance, twirling their skipping ropes. The hours of noon follow in amber gold. Laughing linked, high haircombs flashing, they catch the sun in mocking mirrors, lifting their arms. . . . The morning and noon hours waltz in their places, turning, advancing to each other, shaping their curves, bowing vis a vis . . . The twilight hours advance, from long landshadows. . . . The night hours steal to the last place. Morning, noon, and twilight hours retreat before them . . . Arabesquing wearily, they weave a pattern on the floor, weaving, unweaving . . . . Twining, receding, with interchanging hands, the night hours link, each with arching arms, in a mosaic of movements"

(U 576-7/561-2; emphasis is the text's). The dance of morning hours, noon hours, twilight hours, and night hours corresponds to episodes 4-6, 7-9, 10-12, 13-15: Joyce has labelled them this way in his schema. The first three episodes (dawn) and last three (fusion) are not included in Circe because they, as we shall see later in more detail, abduce and test against actual reality the hypothesis which is here being demonstrated.

The sense-image of the two shafts of light is important to Stephen. And it is made clear why this is so when we connect it to the process of abduction. In Proteus, at an important realization of how language is cognition-dependent, Stephen thinks: "Through the barbicans the shafts of light are moving ever. . . ." (U 44/44). Thus we can see in the early pages of Ulysses the basis for the overall structuring

principles of the novel. Yet we can take a different view and find a "twining" at the textual level (two shafts of sunlight) that had previously just been considered by Stephen when he sees the sun on the water and thinks "the twining stresses." Without Stephen's previous thought (if the description of the two shafts of sunlight meeting were even then to be included -- they may be omitted too, if the other were absent), the "mannerism" of the narration would indeed seem strange (as Kenner responds to with his first narrative voice: "much particularity of 'jagged granite' and shafts of light meeting amid turning coalsmoke"); and one would wonder why Stephen's descent into the living room had not been given. Noting the connection between the two passages (twinning stresses, double shafts of sunlight) makes clear, in miniature, the narrative semiosis of the whole: the "interchanging hands" of the morning, noon, and twilight hours which designate and connect sections of the novel. Here in Telemachus the concept of sun as expression material is "interchanging hands" with it as expression form: it goes from Stephen's to the text's. As Stephen "descends" the text "bows," partially, to pick up (ostension) from within the space of representation Stephen's 'concept' of the sun as expression material and to "show" it in its potential.

The replica involved is the doubling of sunlight. The text exhibits ostension, just as Stephen, who realized himself as other and yet the same, exhibited ostension. And the shaving bowl is carried through the transition from

ostension to replica, and very clearly "fits" the model Eco has constructed. And in that model the "vectors" describe the "rays" of the sun. How transparent it all seems. At replica a doubling. The next stage, of "invention," in Eco's model is found here also: "at the meeting of their rays a cloud of coalsmoke and fumes of fried grease . . . turning." This cloud is literally a projection: "Projection is always the result of a mapping convention by means of which given traces on a surface are stimuli compelling one to map backward and to postulate a content-type where one only sees an expression token" (Eco, Theory, 257; emphasis added). Thus the reader knows what has been happening in the livingroom; but in a larger sense, projection as a part of invention for the first time in the novel makes its appearance. In fact, in the final chapters of the book what Eco says of the previous definition holds true: "So it is always possible to project from nothing or from contents to which no referent corresponds. . . The existence of social conventions in projections (so that is [sic] is possible to map from a perceptual or a semantic model) make easy the reverse procedure, that is, to map from the projection to an unexisting and supposedly projected entity" (p. 257; his emphasis). Of course, to "map from the projection to an unexisting and supposed projected entity" is exactly the process of deduction, a process which would test the original conjecture. And in so doing, those "social conventions" are revealed as conventions. The cloud can thus represent the

area where a projected content will be tested against the light of the original hypothesis.

Radical inventions have been discussed previously at the point where Stephen "heard warm running sunlight." In cases of radical invention, "what takes place is a radical code-making, a violent proposal of new conventions. The sign-function does not as yet exist and sometimes fails to establish itself at all. The sender gambles on the possibility of semiosis" (Eco, 254). Stephen gambles on the possibility of semiosis. And it is the system of the text which ensures that Stephen's gamble on the possibility of semiosis does not fail. The gamble is his acceptance of the hypothesis. The sign-function we have been describing is indeed a "violent proposal of new connections." Moderate invention occurs in the text at the replica of the sunlight into two shafts of daylight. And "a new content plane, lying between the percept and the physically testable expression is brought into being. It is not so much a unit as a discourse" (Eco, 253-54). That content plane which is more a discourse than a unit is visibly present, or suggested by, the smoke which floated at the meeting of the two rays of the sun. It suggests the new content plane in the second section of Ulysses. And section two begins with an indirect reference to smoke and a more direct depiction of that present content plane.

We have an image of the meeting of the expression system of the text and the expression system of Stephen, a meeting



which brings about a new content plane. This new content plane will be represented in the text with the appearance of Leopold and Molly Bloom.

From "Server of a Servant" to "Servant of a Master"

The replica of the sunlight in Stephen's expression model and the subsequent ability of Stephen to see "in the bright silent instant. . . his own image" (U 18/20) is based upon the awareness Stephen has about the potential of a double expression system. It is like the two expression substances sharing the same form at gurgling.

After Stephen "laid the shaving bowl on the locker, a tall figure rose from the hammock where it had been sitting, went to the doorway and pulled open the inner doors." And it asked "'Have you the key?'" (U 11/13). Buck said "'Dedalus has it'" but Stephen says, "'It's in the lock': 'The key scraped round harshly twice and, when the door had been set ajar, welcome light and bright air entered" (U 11/13). The potential of a double expression system, or a system with a connotative expression plane, is that the expression-continuum (or air in Stephen's model) can itself combine with the expression material (or sun in Stephen's model): bright air. The key in the lock is equivalent to a code in a sign-function -- in a sign-function between a new expression system and a new content plane. Such a major correlation between a new expression system based on visual rather than audial (glyphic rather than phonic) material and a new

content system based on "projections" turning as they hang suspended in the meeting of the connotative expression system (invention) has been established. But what is also important is that though a major correlation has been established, Stephen "doesn't have it." It is not a matter of possession but of understanding the dynamic relation between system and process. To better understand the relation Stephen must, if he is to more fully understand the writing process which he hopes to use "tomorrow" (cf. Circe, p. 518/506), see himself as double, as part of the system and part of the process constituting the system or, in other words, as an 'other' in a present world wherein objects take on a 'double' content or potential meaning. In effect, to see his actions as the content of a double expression system is to see himself as server to a master "who wants me for odd jobs" (U 20/22). The master is himself as 'other' or an 'other' who is the hand that inscribes 'twining stresses' and weds wavewhite words, a concept of writer that is part of a system. The odd jobs are indeed his present actions (physical and mental) which are the content of a double expression system. Until Stephen further recognizes the double content plane, he will 'undervalue' these 'odd jobs'. Realizing it is tantamount to conceiving the role of a secondary phantasy system or "possible worlds" and how it creates the meaning of literal phenomenon. Not yet is Stephen able to consider himself as 'other', the master; but he is on the road to that discovery.

The road of discovery includes an association between voice and deceit and another association between the symbiotic circle and the related idea of information transfer.

### The Milkwoman

The milkwoman enters after the "bright air." She is a icon of the mother in the symbiotic circle, literally bringing milk, structurally allowing for another differentiation:

He watched her pour into the measure and thence into the jug rich white milk, not hers. Old shrunken paps. She poured again a measureful and a tilly. Old and secret she had entered from a morning world, maybe a messenger. She praised the goodness of the milk, pouring it out. Crouching by a patient cow at daybreak in the lush field, a witch on her toadstool, her wrinkled fingers quick at the squirting dugs. They lowed about her whom they knew, dewsilky cattle. Silk of the kine and poor old woman, names given in old times. A wandering crone, lowly form of an immortal serving her conqueror and her gay betrayer, their common cuckquean, a messenger from the secret morning. To serve or to upbraid, whether he could not tell: but scorned to beg her favour (U 13-14/15; my emphasis).

She allows Stephen to realize his 'difference' -- rather than finding himself "another and yet the same" he will be nominally the same yet another. He will "see his own image" and later at the end of the episode will identify with the drowned man: "The man that was drowned. A sail veering about the blank bay waiting for a swollen bundle to bob up, roll over to the sun a puffy face, slat white. Here I am" (U 21/23).

And if we will recall, Stephen's previous thoughts were preceded and followed by images of information transfer; now a representation of the symbiotic circle becomes part of information transfer, part of that newly created expression system for which there was no content plane: she is "a messenger from the secret morning." The secret morning refers to the semantic origin of that new content plane; and just as the new paradigm for information transfer is based on the primacy of meaning, derived from a series of transformation from the functional circle into the individual reality of the situational circle which allows, in principle, for an infinite polysemy of individual reality, so too is Stephen's movement from a denotative to a connotative content plane importantly based upon the image of the symbiotic circle, which engenders these transformations.

"To serve or to upbraid" that is the question in Stephen's mind as he considers the primacy of meaning in his own hypothetical model of aesthetic information transfer. Whether she is there to serve her conqueror (literally

Haines) and gay betrayer (Buck) is not the only question. The ungrammaticality of the final sentence underscores his own involvement in the dilemma. The problem for Stephen is not only whether he is to serve or upbraid Buck and Haines, not just whether he is to use 'meaning' seriously in the 'one sense' of the word believer (cf. U 19/21) -- instead the problem is more complex. How does one create a new content plane? He thinks the milkwoman is "maybe a messenger" from that morning world wherein words float, twinning, through the morning peace. He will be receiver of her message, but only because he is so interested in becoming a messenger himself.

Buck "drank at her bidding" (U 14/15); she realizes what his occupation is from his comments (U 14/16). She does not serve. She does not accept Buck's hospitality ("'No, thank you, sir,' the old woman said, slipping the ring of the milkcan on her forearm and about to go" [U 15/16])). She does not upbraid:

--Do you understand what he says? Stephen asked her?

--Is it French you are talking, sir? the old woman said to Haines.

Haines spoke to her again, a longer speech confidently.

--Irish, Buck Mulligan said. Is there Gaelic on you?

--I thought it was Irish, she said, by the sound of it (U 14/16).

But she does seem to have, depending on her intonation, made either a confession of her confusion about what language has been used or a naive but profound remark about the relationship between sound and meaning. In as much as the relationship between sound and meaning is clearly arbitrary, Haines (the Englishman speaking Gaelic) and Buck (the Irishman whose voice dresses the character) have been contrasted to the old woman.

What is the manner in which the milkwoman is "cuckquean" -- in other words, the manner in which these men are false to her? Cuckquean is correlative to cuckold. And based on the answer to this question we may wonder if Bloom is "cuckolded" by Molly in the same manner that the milkwoman is "cuckquean" to the men.

. . . To serve or to upbraid, whether he could not tell: but scorned to beg her favour.

--It is indeed, ma'am, Buck Mulligan said [in reference to "She praised the goodness of the milk] pouring milk into their cups.

--Taste it, sir, she said.

He drank at her bidding.

--If we could only live on good food like that, he said to her somewhat loudly, we wouldn't have the country full of rotten teeth and rotten guts. Living in a bogswamp, eating cheap food and the

streets paved with dust, horsedung and consumptives' spits.

--Are you a medical student, sir? the old lady asked.

--I am, ma'am, Buck Mulligan answered.

Stephen listened in scornful silence. She bows her old head to a voice that speaks to her loudly, her bonesetter, her medicineman: me she slights. To the voice that will shrive and oil for the grave all there is of her but her woman's unclean loins, of man's flesh made not in God's likeness, the serpent's prey. And to the loud voice that now bids her be silent with wondering unsteady eyes (U 14/15-6).

The manner of "being false" is directly correlated with voice. The loud voices are false by their mockery (Buck) or false by their assertion of authority (Haines' voice "bids her be silent"). Considering her importance as a representation of the symbiotic circle, that "ontogenic matrix of meaning," we can see the manner in which "voice" is not "true" to the "reality" of what Stephen finds important. His "voice" is connected to to material presence, to traditional artistic conventions. Thus Stephen does find the double content (a connotative content). He is aware of "difference": the kind Derrida describes is quite similar - it is a difference between voiced and glyphic writing.

Buck and Haines are false because of their refusal to accept the milkwoman in any other role but audience; they limit her reality to a blank. But Stephen is "scorned to beg her favour" (U 14/15), to "court" meaning; and Stephen's expression model, which is based on the spatial rather than audial topo-sensitive details -- the sun rather than the whistles -- will not "limit" meaning.

The "secret messenger" has provided Stephen the means of establishing a connotative content. It would be based on material words not on the presence of a narrator who is said to give "voice" to the text. Having realized the connotative expression system which the rays of sunlight suggest, he needed to find the correlative which would allow himself to be the same yet another, the servant of a third master rather than a servant. The insight about voice suggests the double role of a potential artist. The third master would be the governing thought or thought process found in a system. As the milkwoman estimates her bill she states: "and one and two is two and two, sir" (U 15/16). When she leaves she says, "Time enough sir . . . taking the coin. Time enough. Good morning" (U 15/17). One is two: the difference between them recalls Philip Drunk and Philip Sober who are one if the mere convention of time is ignored. Time in the conjectured, possible text Stephen is considering, can be used as a convention. Time can be used as a means of giving truth to the process (which occurs through time) and as a method which shows the development of thought. The old woman has time



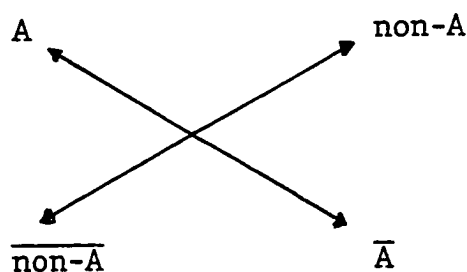
enough to receive payment, for Buck and Haines will not change -- and, anyway, she is (we have been told by Stephen's thoughts) a "form of an immortal."

The "Form of an Immortal" . . . .

Their Common Cuckquean: To a Voice She Bows

The difference between phonic and glyphic language is related to the difference between what is secret and what is a lie. Why can the milkwoman bow to their voices? Why is she Buck's and Haines' "common cuckquean"? These questions which are important (to Stephen at least, and to a reader) can be answered rather easily with the semiotic square. ("By semiotic square is meant the visual representation of the logical articulation of any semantic category. The elementary structure of signification, when defined - in a first step -- as a relation between at least two terms, rests only on a distinction of opposition which characterizes the paradigmatic axis of language. It is, consequently, adequate for the establishment of a paradigm composed of n terms, but it does not thereby allow for the distinction, within this paradigm, of semantic categories founded on the isotopy (the 'family relations') of distinctive features which can be recognized therein. A typology of relations is necessary, which will make it possible to distinguish intrinsic features, those which constitute the category, from those which are foreign to it. The linguistic tradition which sprang up in the 1920's and 30's has imposed the binary

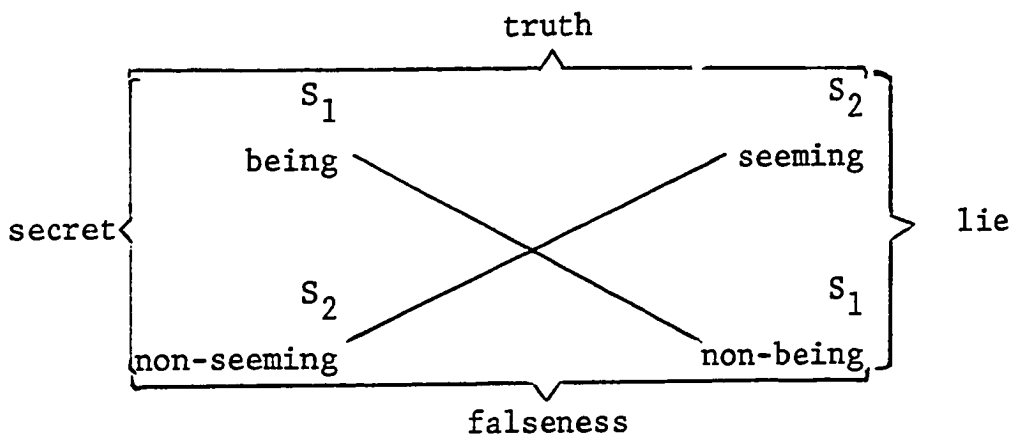
conception of category. . . . However, even R. Jakobson, one of the defenders of binarism, was obliged to recognize the existence of two types of binary relations: the first, of the type  $A/\bar{A}$ , characterized by the resultant opposition of the presence and absence of a definite trait, and the second, of the type  $A/\text{non-}A$ , which manifests to some extent the same trait, present twice in different forms. On the basis of this knowledge, the result of linguistic doing, it has been possible to establish a typology of intercategorical relations" [Greimas and Courtes, Semiotics and Language, 308; my emphasis].) There are two types of binary relations in the semiotic square:



The above explanation suggests the foundation of Stephen's thoughts: "Inshore and farther out the mirror of water whitened, spurned by lightshod hurrying feet. White breast of the dim sea. The twining stresses, two by two. A hand plucking the harpstrings merging their twining chords. Wavewhite wedded words shimmering on the dim tide." The two types of relations are here: that which is characterized by the presence and absence of a definite trait is found in the presence of the sun inshore and farther out and its absence between the two. The second type of relation "which

manifests to some extent the same trait, present twice in different forms" is clearly found in "the twining stresses, two by two." Stephen's conjecture thus includes "inter-categorical relations." As does Ulysses. And the "secret word" the "secret morning" which are so important to Stephen are inherent in the expression model he considers.

The second generation of categorical terms (derived by two parallel operations of negation on the above primitive terms) of the semiotic square:



contains the contradictory metaterms truth and falseness, and the contrary metaterms secret and lie (Greimas and Courtes, 310). This second generation of categorical terms could be seen as deriving from the above passage in Ulysses. The mirror of water whitened. And just what that mirror does is important, for it operates as the principle of negation on the primitive terms (cf. Babcock, "Reflexivity," p. 5). This is related to why Stephen thinks "let me be and let me live" (U 10/12), and to his remark in Circe that today is his "birth" day. The construction evident in his thoughts has

placed his "being" into "non-being." Much before the milkwoman enters the themes of being and non-being, seeming and non-seeming, "secret" and "lie" are at work. Semiotic form is considered to be "that which is manifested; its substance is that which manifests it (is its manifestation) in purport (or meaning)" (Greimas and Coutes, 183). Stephen is manifesting, in this passage, the substances of semiotic form, and "manifestation, conceived as making the form present in the substance, presupposes semiosis (or the semiotic act) as an a priori condition. It brings together both the expression and content forms even in advance, as it were, of their material realization (purport)" (Greimas and Courtes, 183). Stephen is revealing the immanence of the system. He is showing the form in the substance.

What has not been revealed, and is revealed with the presence of the milkwoman, is the difference between voice and writing, between the phoneme and the grapheme, between the secret and the lie. The difference has been inherent in the conjecture all along, but the difference itself has not been "manifested" to Stephen.

Another look at the milkwoman passages is in order. This time, from the perspective which the semiotic square provides, we can see a clear opposition between secrets and lies which is based on voice. The milkwoman "bows" to the loud voices of first Buck, then Haines. They, not the milkwoman, are false: she is cuckquean. She is being in an a priori sense in that she is both "immortal" and a

representation of meaning itself. She also negates "seeming" (this is what Stephen must understand: how she neither "serves" or "upbraids"): she is "being" and "non-seeming." Because of this connection she is "secret" -- from a "secret morning" -- and, by definition, secret subsumes the categories of being and non-seeming. Now we can understand the importance of both morning and silent, for they both refer to the written, or unspoken, which is the type of expression form used in the system of Ulysses. This is why May Dedalus comes "silently" in the dream and possesses the "secret" word. The meaning she represents and the message the milkwoman brings is in fact what is immanent in the system of Ulysses. Only the glyphic word, not the phonic word, can subsume "non-seeming" and "being" and represent the "secret" of Ulysses. That secret is the process of its own becoming, since it represents "entelechy." The secret involves camouflage (cf. Greimans and Courtes, 183), but is diametrically opposed to deception (cf. Greimas and Courtes, 69). Voice is the means of deception. It cannot be "non-seeming": errors are made because of "the sound of it," and we can recall the milkwoman noticing the sounds of their voices. Voice denies the system for the "gain" whether presuasive or deceptive of the personal exigencies of the user. It surely contradicts the notion of a semantic encyclopedia, a basic concept in Ulysses and Finnegans Wake, a notion already discussed in terms of the polysemy of individual reality in the situational circle. Voice

contradicts such a notion in written prose because it is possessed by a user whose intentions play upon non-systematic, non-paradigmatic relations. After the milkwoman leaves (she has "time enough" because all time is hers from a system-related, paradigmatic place of origin), Stephen thinks: "Speaking to me. They wash and tub and scrub. Agenbite of inwit. Conscience. Yet here's a spot" (U 16/17). Their voices speak to him as they did to the milkwoman. They speak to him of their intentions: "I intend to make a collection of your sayings if you let me," Haines has just "said." Stephen makes the connection between their speech and their remorse of conscience, hidden intentions and revealed intentions, and Haines continues: "'Well, I mean it,' Haines said, still speaking to Stephen. 'I was just thinking of it when that poor old creature came in'" (U 16/17).

Stephen notices the voiced nature of Buck and Haines' words. He thinks: "Speaking to me. They wash and tub and scrub. Agenbite of inwit. Conscience. Yet here's a spot." His thought reveal his concern with truth versus falseness. Buck and Haines cannot, despite their frequent ablutions with words as well as water, conceal their lack of conscience, or purpose, seen imaged in Buck's "dangling watchchain." Buck, on the next page, speaks to material objects with the same mocking manner he used with Stephen and the milkwoman:

And putting on his stiff collar and rebellious tie,  
he spoke to them, chiding them, and to his dangling

watchchain. His hands plunged and rummaged in his trunk while he called for a clean handkerchief. Agenbite of inwit. God, we'll simply have to dress the character. I want puce gloves and green boots. Contradiction. Do I contradict myself? Very well then, I contradict myself. Mercurial Malachi. A limp black missile flew out of his talking hands (U 16-7/18).

Buck's words contradict each other and lead to no insight, no progress, no resolution. Words contradict his "self" -- the sound of his words stand in an arbitrary relationship to his mocking attitude and proceed whimsically. He says, "in a suddenly changed tone" in response to Stephen's remark that there is little hope in getting money from either the milkwoman or Haines: "To tell you the God's truth I think you're right. Damn all else they are good for. Why don't you play them as I do? To hell with them all" (U 16/18). But previously he had told Stephen, playing him for all he was good for, that there would be hope (for money) "from me." His deceit is evident; his lies, his mockery, his words point to the conviction that there is a natural connection between the sense of his words and the sound of his own voice: there is not. The message of the milkwoman (the arbitrary relation between sound and sense) is manifested in Buck's continual "performance." When he removes the deceit from his voice (the "shrewd sense") he "moved a doll's head to and fro" (U 18/20).

Two details suggest Stephen has "received" the "message" of the milkwoman. "Stephen, taking his ashplant from its leaningplace, followed them out and, as they went down the ladder, pulled to the slow iron door and locked it. He put the huge key in his inner pocket." Buck asks if he brought the key -- "I have it, Stephen said, preceding them" (U 17/19).

The ashplant is appropriate for finding a connotative content. It is a discovery tool: "a probing stick can become a way of explaining some of the more 'abstract' twentieth-century physical theories. In their radical simplicity, implements of three dimensions highlight a material dimension rather than suppress it. They therefore seem to 'incorporate' the thingliness of nature better than conceptual tools, which delineate a metaphysical model. . . . The stick is no longer an exosomatic instrument but has become 'internalized' thereby establishing a bridge with the other side. Although the stick is firmly vectoral, it receives messages about the hypothetical dimension, as well as sends them. The ground of its operation serves as a tympanum, while the figural probe transmits and receives. As a two-way bridge, figuring complementarity, it works like Jakob von Uexkull's Funktionskreis, a circular system of receptors and effectors" (Bunn, 54-5). It works as a bridge between process and system. As Bateson states, "the stick is a pathway along which transforms of difference are being transmitted" (Steps, 465).



The message of the milkwoman has also been that the "secret" word, which Stephen desires (and has dreamed about), is the unvoiced, written word. Earlier (immediately after the replica of Stephen's expression model in the "two shafts of soft daylight" passage) the key was in the lock, and after having turned round twice, light and "bright air entered." It then represented a code in a sign-function for a new expression system and a new content plane. In the intervening pages Stephen has understood how the new expression system and new content plane can be combined via unvoiced written words. The hypothesis gains acceptance. The key represents that code, and Stephen, by possessing it, is said to precede Buck and Haines because of his possession of the code of the system (or model of the system), for "models reverse the order of time's arrow by imaginatively incorporating the future in a fictive [hypothetical] construct" (Bunn, 5). The door between inside and outside has already opened (for the entrance of the "bright air" and the milkwoman) and unlocked, Stephen has only had to understand how to make inside accord with outside (the "bright air" is inside and represents Stephen's 'mental' possession of an expression system) before he could move outside. And if one considers the difference between inside and outside as the difference between storage and retrieval of information, then we can see that Stephen has been in the presence of the hypothesis or stored information, which when understood motivates his move outside. Once he is outside he

will need his "ashplant" (which receives messages) to retrieve information.

Outside the tower Stephen is asked for his Hamlet theory. Buck, not Stephen, explains: "It's quite simple. He proves by algebra that Hamlet's grandson is Shakespeare's grandfather and that he himself is the ghost of his own father."

--What? Haines said, beginning to point at Stephen. He himself? (U 19). Now we can understand why Stephen remains silent, and why he says to the esthetes in the National Library in Scylla and Charibdis, that he does not "believe" the Hamlet theory which he has explained. The Hamlet theory had been constructed before the start of the episode, before Stephen's understanding of the nature of artistic construction, expression, and use of content. Knowing he previously has considered such a theory reinforces, explains, or 'motivates' the process we have just described Stephen undergoing. Art has been on his mind, and he previously considered an autobiographical approach to art. The hypothesis places the creator in an independent relation to the created.

What Stephen has 'discovered' inside the tower motivates his move outside the tower, and he is now in the position to "retrieve" information. Bunn explains that "three-dimensional container models therefore reverse the ordinary patterns of insides and outsides of real space in favor of a modified and modifiable symbolic space. With

three-dimensional models one can 'handle' symbolic space. . . . One makes the inside of a problem perceptible to the eye and removes the problem to a model in real space that is modifiable by the hand, so that it signifies the inside has become outside" (p. 65; cf. p. 62 for its relation to information transfer). The "bright air" which previously "entered" the tower is thus "the bright silent instant . . ." and ". . . the bright skyline" (U 18/20). Stephen's silence about the Hamlet theory inside the tower is his relation to the problem of his existence in a potential text. It is 'brought out' outside the tower. He realizes the self-reflexive potential in the Hamlet analogy:

--I mean to say, Haines explained to Stephen as they followed, this tower and these cliffs here remind me somehow of Elsinore That beetles o'er his base into the sea, isn't it?

Buck Mulligan turned suddenly for an instant toward Stephen but did not speak. In the bright silent instant Stephen saw his own image in cheap dusty mourning between their gay attires (U 18/20).

Stephen becomes two, as he 'retrieves information' from Haines' "he himself" and from the (necessarily related) perspective of the previous "bright air" (inside) becoming time (frozen to the instant of recognition or 'retrieval') and an interesting circular line of the horizon (a polysemantic space). In other words the expression continuum

previously connected with materiality in the tower is now "seen" replicated (in conjunction with Stephen's replication due to the difference in space and time in the hypothetical and real models or system and process). It is now also two: a "bright instant" and a "bright skyline." He can see himself from the hypothetical dimension that abduction instigated.

Stephen also receives information from the model of information transfer which he witnessed from atop the tower, a perception which led to its difference from Buck's caricatured model.

. . . In the bright silent instant Stephen saw his own image in cheap dusty mourning between their gay attires.

--It's a wonderful tale, Haines said, bringing them to halt again.

Eyes pale as the sea the wind had freshened,  
paler, firm and prudent. The seas' ruler, he gazed  
 southward over the bay empty save for the  
smokeplume of the mailboat, vague on the bright  
skyline, and a sail tacking by the Muglins.

--I read a theological interpretation of it somewhere, he said bemused. The Father and the Son idea. The Son striving to be atoned with the Father (U 18/20).

The bay which was semantically full from Stephen's previous perspective (i.e., in relation to the water representing the mother, meaning as the totality of possible meaning systems; in relation to meaning in general it is "stored information") is now empty -- meaning now must be "retrieved," in part, created, in part, detected. The mailboat which was seen previously "clearing the harbour mouth of Kingstown" (U 5/7) is now part of the "bright skyline": the model of aesthetic information transfer is part of the material of the system, and the process of that transfer is the ends-means accommodation of the process within the system. Stephen's position is as vague as the mailboat's -- the system of Ulysses has been "retrieved" or witnessed as the presence of the process within the hypothetical perspective of the material whole. The "smokeplume" of the mailboat is visible; the "smokeplume" is what fills an otherwise empty bay. And just as the previous cloud of smoke floated suspended in the meeting of "two shafts of soft daylight which fell across the flagged floor from the high barbicans . . . turning" so too does this "smokeplume" of the mailboat designate the meeting of the process and the system of Ulysses. With the "flagged floor" previously a signaled foundation we now have as foundation a "bright skyline," a foundation in which the discovery which has been signaled has been made visible in three-dimensional circular space as the foundation of the whole system. "Turning" which previously referred to transformation (a radical change of the projection of the

smoke upon the sunlight which is in the process of changing shape) has been accomplished. "The key is the turn itself" (Bunn, 64), and the transformation has taken place - Stephen "has the key" or the code or the perspective from the hypothetical space of the system of the whole, and his possession of it is a transformation of inside and outside, of 'real space in favor of a modified and modifiable symbolic space' (Bunn, 65), of storage inside and retrieval outside of information. The hypothesis is, in other words, held as plausible. The "sail taking by the Muglins" is a result of the previously implied turn of the projection of smoke in the two shafts of daylight: the transformation of inside and outside, the difference between storage and retrieval of information has allowed that "projection" of smoke to become, by mapping from the projection to an unexisting and supposedly projected entity, a new content (Eco, 257). And that sail will later "save" a "tranformed" Stephen: "The man that was drowned. A sail veering about the blank bay waiting for a swollen bundle to bob up, roll over to the sun a puffy face, salt white. Here I am" (U 23). The images Stephen perceives are aspects of a completed process which he has observed. And Stephen himself has undergone a change, appropriate to such a process, which would allow him to write not as a 'singular' "I" but as a 'universal' "I."

### A Horrible Example of Free Thought

Stephen is between two worlds, in Wandering Rocks he thinks about this liminal state of betweenness which he still finds himself in: "The whirr of flapping leathern bands and hum of dynamos from the powerhouse urged Stephen to be on. Beingless beings. Stop! Throb always without you and the throb always within. Your heart you sing of. I between them. Where? Between two roaring worlds where they swirl, I. Shatter them, one and both. But stun myself too in the blow. Shatter me you who can" (U 238). The two worlds are external/internal; fact/fancy; past/future. In one sense the two worlds are: wor(1)d. The mistaken use of word for world in the text (of Milly's letter) maintains the focus on Stephen's own state between the two. And Stephen's liminal state, which is highlighted by other characters' musings and mistakes as in the previous example, keeps the relationship between process and system in Ulysses dynamic. His state of betweenness keeps the reader also focused on the dynamic relationship between process and system.<sup>18</sup>

In Telemachus Stephen "saw his own image"; one additional act of awareness - Stephen thinking of himself seeing his own image - would place himself in the position of "the third" (in a Pericean sense of interpretant, in textual sense of being himself "the third master" whose literal presence and actions are "odd jobs"). One less act of

awareness, in other words, forgetting his double position, forgetting to interpret the space outside the tower in terms of what he has discovered inside the tower, would keep him prisoned in the material chain of events without recourse to escape or exile. Forgetting his double position (a place in the hypothetical space of the system and a place in the process which requires his literal presence and consciousness of the "end" to which the literal "means" move toward) would be tantamount to his forgetting his desire to write and understand the writing process. It would be a mistake, an error. And of course, Buck and Haines exert a pull in this direction. They would have Stephen respond as they would have him respond, would keep him in the tower, play upon him for their various intentions.

Stephen does make the mistake of responding as they would have him, of not understanding what is outside the tower in terms of what has been learned:

--You're not a believer, are you? Haines asked. I mean, a believer in the narrow sense of the word. Creation from nothing and miracles and a personal God.

--There's only one sense of the word, it seems to me, Stephen said. Haines stopped to take out a smooth silver case in which twinkled a green stone. He sprang it open with his thumb and offered it.

--Thank you, Stephen said, taking a cigarette (U 21).



The error is in the action and in the voiced reply. The action of taking what was offered conflicts with milkwoman's refusal to take what was offered: she says "No, thank you . . . about to go" (U 15/16). Haines "helped himself and snapped the case to. He put it back in his pocket and took from his waistcoatpocket a nickel tinderbox, sprang it open too, and, having lit his cigarette, held the flaming spunk towards Stephen in the shell of his hands" (U 20/21) and the repercussions are felt in the text: later in Aeolus:

--A few well chosen words, Lenahan prefaced.  
Silence!

Pause. J. J. O'Molloy took out his cigarette case.

False lull. Something quite ordinary.

Messenger took out his matchbox thoughtfully and lit his cigar.

I have often thought since on looking back over that strange time that it was that small act, trivial in itself, that striking of that match, that determined the whole aftercourse of both our lives (U 140/138).

Despite the differences in tone and perspective between the two episodes, we can see the action singled out. In the first instance it has been 'passed over' and in the second it has been facetiously 'overdetermined.' (We will discuss its additional relevance in Aeolus in the next chapter.) And

just as the first can be understood as a "false lull" because Stephen only reacts to the offer as "something quite ordinary" so too can the remark that "there's only one sense of the word," for what follows is Stephen's recognition:

--You behold in me, Stephen said with grim displeasure, a horrible example of free thought.

He walked on, waiting to be spoken to, trailing his ashplant by his side. Its ferrule followed lightly on the path, squealing at his heels. My familiar, after me, calling Steeeeeeeeeeehen. A wavering line along the path. They will walk on it tonight, coming here in the dark (U 20/21).

It may be that "believer" separates the 'secret' from the 'lie,' the 'true' from the 'false' and is one of the few words that is not polysemic. Even so, Stephen's verbal response in itself is the problem. The reason why Stephen has been "depressed by his own voice" (U 8/9) is that there is no connection between sound and sense whereas there is a connection between voice and presence, and it is his contextual presence which disturbs him, which makes his actions and verbal acts mere 'odd jobs' from the written system which he desires to understand and write. Thus is he a "horrible example of free thought."

"Other world" (U 585/566) 'messages' are to be received from his perceptions and his own actions within "this" world, and his previous action of taking a cigarette and speaking

with Haines can be "read" or interpreted by him. And it is for this reason that he, in the next paragraph, waits to be spoken to (from both worlds, with an unvoiced word or message) and thus he grasps his ashplant, which is a 'bridge' with the other 'side'):

He walked on, waiting to be spoken to, trailing his ashplant by his side. Its ferrule followed lightly on the path, squealing at his heels. My familiar, after me, calling Steeeeeeeeeephen. A wavering line along the path. They will walk on it tonight, coming here in the dark. He wants that key. It is mine, I paid the rent. Now I eat his salt bread. Give him the key too. All. He will ask for it. That was in his eyes (U 20/21).

Just as the ashplant is an analytical tool, a tool which cuts through or "divines" the connotative content, the ferrule is a complementary tool. Its function is synthetic as the ashplant's is analytic. Ferrule (which in Middle Latin means "a ring, a bracelet," an etymology which will figure in subsequent passages in Nestor [U 26] and elsewhere) means "a ring or cap of metal put on a column, post, or staff, as on the lower end of a cane or an umbrella, to strengthen it or prevent it from wearing or splitting" (New Century Dictionary). Its complementary function is to combine or hold together the individual items "received" by the analytic tool or ashplant. It works as the whole in part-whole

relationships. Of course, the passage is an index of Stephen's relation to the (future/present) text.

In the above passage, the synthetic whole, which has been undermined in the immediately preceeding passage, is now clarifying Stephen's own relationship to what he has learned or 'discovered': the whole "speaks" only, it must be remembered, because of the nature of the details which the ashplant manifests. The ferrule is "calling Steeeeeeeeeeephen." The "whole" which the ferrule represents speaks to the type/token ratio or the idea of the father/son relationship or the concept of creator/created. The "whole" -- when the "end" in the ends-means relationship between system and process, or when the nature of the hypothetical dimension is understood as being based on motivated heteromaterial such as topo-sensitive details whose spatial parameters "point" to the relationship between expression and content -- expresses its dependence on the parts, on the process within the system, on the content-form which motivates the expression ("whether because the expression-type does not exist as yet or because the expression type is identical with the content-type"[Eco, 247]).

Prior to this passage, Stephen was aware of the concept of the whole: the mailboat as sign-vehicle was seen leaving the mouth of the harbour and then was vague on the bright skyline, leaving a trace of smoke, a "smokeplume." But Stephen never recognized the dependence of the whole upon its

parts. The parts he has realized: they are the twinning stresses which are merged by a hand that thus makes the parts into twinning chords and the elements making those parts into "wedded words." He has recognized the nature of the content as double; those parts are being received with his "ashplant." But the dependence of the whole upon the parts, of the system upon the process has never been recognized. The "hand" (on page 11) in Ulysses is considered in terms of its "making the form present in the substance . . . it brings together both expression and content forms even in advance, as it were, of their material realization" (Greimas and Courtes, 183; quoted and discussed above). Now that Stephen is concerned with the "material realization" (because he has understood the above elements in theoretical, or non--material terms - has understood the semiotic act before considering its application), the "whole" is seen as dependent upon the materials in its domain. The hand is a combining or synthesizing tool also, as is the ferrule. (See Bunn, "Enconium for Hands," pp. 48-50, and pp. 65-69). The ferrule has no function without the staff or ashplant; so too with the hand - it has no function, no purpose without that which it "merges" or holds together.

Movement of the hand, the dynamics of the previous expression model, have been suppressed, until now. "Steeeeeeeeeephen" includes "rate of articulation" as a most important feature. That movement or duration through time, which was not previously considered, is shown. The "ferrule

followed lightly on the path": it moves along with the staff or ashplant which holds it together, moves along with the hand holding the ashplant, a hand which is connected with the ground through the ashplant and moves in relation to it, marking its terrain. Only because of the movement is there perceivable marking made along the ground. The hand alone makes no mark, the ferrule alone makes no mark: the ashplant, which is held together by the ferrule and the hand, cuts its natural shape into the path, makes a mark. It is unvoiced, only a point, without movement. Yet with or without movement it is "retaining the perpendicular" (U 589/574) or the synchronic axis or polysemantic potential as it bridges the two worlds (the subjective world connected to the person whose hand holds it and the objective world connected to its other end; the matter of the creator and the created when movement is made). The ferrule calling is a result of the movement of the ashplant upon the ground, a movement making vibrations within the stick (as the trace is made), vibrations which are received by the iron band or ferrule; figuratively, along these literal lines, the movement of the stick or polysemantic meanings creates vibrations or overlapping, contradiction, recombination, linkage in correspondences, which are received by the ferrule or the whole. The ferrule and the hand are both receivers relative to the ground and the ashplant, which connects them. Just as the ferrule and the hand are both receivers, they are both combining tools.

Stephen, receiving information about the system, looks at his trailing ashplant, "its ferrule followed lightly on the path, squealing at his heels" and thinks: "My familiar, after me, calling Steeeeeeeeeeephen." He sees the unvoiced line and the system or whole which holds his double. He is type to his token, father to the son/token who calls his name even as when he had constructed his Hamlet theory he had been in the reverse position. But the process of understanding the type, the system from the tokens and from movement through time is the wavering line on the path and is visible, can be followed or retraced by others. The process is a movement which can be deconstructed, which can be walked upon in the dark in reverse and which can be the basis of interpretation of presence/absence - just as Buck and Haines will walk upon the "graphic" trace of the ashplant and consider the absence of Stephen while they move in reverse upon the mark he has made. And at that time Buck and Haines will need a means of interpreting Stephen's absence; Stephen thinks "He wants that key." Stephen will give it to him. It is for Stephen superfluous. And though Buck and Haines will have it and can unlock the door, unless they have interpreted Stephen's mark along the path they will not find an explanation that solves his absence.

The next words in the text are repeated:

--After all, Haines began . . .

Stephen turned and saw that the cold gaze which had measured him was not all unkind.

--After all, I should think you are able to free yourself. You are your own master, it seems to me.

--I am the servant of two masters, SStephen said, an English and an Italian.

--Italian? Haines said.

A crazy queen, old and jealous. Kneel down before me.

--And a third, Stephen said, there is who wants me for odd jobs (U 20/22).

Stephen has been "after all" -- has been in the hypothetical dimension from which he has understood the relation between process and system and his place between the two. (All becomes an important word in Nestor.) He has seen the unspoken trace and heard the system call his name just as he can hear his conbsubstantial father's voice. Haines will repeat his question: "Italian?" -- he will never "hear" the comment about a system analagous to the system of the "holy Roman catholic and apostolic church." Both the well-constructed written system of Ulysses and the Italian system are based on the presence and absence of the creator, on interpretation of everyday 'quite ordinary' experiences in terms of two times, the synchronic and diachronic, on the belief in the "secret" of transubstantiation, and on the contrast to the "false" and the "lie." The crazy "queen" is the mother church whose servants guard her "secret" well.



The long passage which follows is a testimony to that "jealous" protection:

The proud potent titles clanged over Stephen's memory the triumph of their brazen bells . . . .

But the passage is that of Stephen's thoughts so very well known we need not repeat it here. The words which follow Stephen's thoughts: "Hear, hear. Prolonged applause. Zut! Nom de dieu!" (U 21/22) do not "exist alongside the narrative" in, as Kenner says, "a pocket of time." They are Stephen's thoughts and are in the same time as his previous thoughts. What makes "Hear, hear. Prolonged applause. Zut! Nom de dieu!" seem so strange to a person who has not been aware of Stephen's other recognitions ("Chrysostomos!") is that they seem to come from another time and another space. That "additional" time and space is exactly that of the system which Stephen has comprehended in potentiality, as an abstraction, but with reference to himself. What makes them so different from his previous thoughts? His recognition that his thoughts are not heard, are not received, have not been written; his frustration at his desire to be the priest of the imagination when what comes out of his mind is "old hat," albeit in "top" declamatory style. As Deasy will unwittingly give words to in Nestor: "One must be humble. But life is the great teacher" (U 35/36). Stephen is anxious to apply his system, and it is at this point that Haines' voice says: "I don't want to see my country fall into the

hands of German jews either. That's our national problem, I'm afraid, just now" (U 21/22). It is just at the point at which Stephen who wants to apply his system but has no new content that the first hint about Bloom occurs.

From Ostension and Replica to Invention

Abduction is a method of discovering methods, of bringing into awareness new ideas. And it should come as no surprise that this discovery method culminates in invention. The last section of Telemachus is found on the last two pages. It begins:

Two men stood at the verge of the cliff,  
watching: businessman, boatman.

--She's making for Bullock harbour.

The boatman nodded towards the north of the bay with some disdain.

--There's five fathoms out there, he said.  
It'll be swept up that way when the tide comes in about one. It's nine days today.

The man that was drowned. A sail veering about the blank bay waiting for a swollen bundle to bob up, roll over to the sun a puffy face, salt white.  
Here I am (U 21/23).

with an abrupt shift from the previous context. If we recall, during Stephen's descent from the parapet to the livingroom of the tower there was a key paragraph in which

Stephen's expression model was replicated: the two shafts of daylight passage was seen as narrative ostension or "picking up and showing a fact as a member of the class of which it is an element." In this passage which begins the end of Telemachus we have the descent, once again of Stephen (in the next sentence: "They followed the winding path down to the creek"). And once again there can be seen replica, and ostension. We (Stephen, a reader) are given a symbol of the invention in the original conjecture. It reflects Stephen's bursting out of conjecture to an acceptance of the hypothesis. Once again, the process Stephen has experienced has, in one perspective, determined the system. His inventiveness must be shown to exist alongside perceptible reality, just as his perception of the sun must be doubled in order to be "shown."

The doubleness that Stephen experienced (when he saw his own image) and understood as the difference between system and process (which engendered the 'third master' comment to Haines which was ignored) is here shown as a doubleness of that expression plane, which we have seen (on the first page of Ulysses in the repetition of gurgling) place the space of representation and the space of representationality on the same amorphous continuum in a dialogic rather than a traditional hierarchic relationship. The dialogic nature of Stephen's own thoughts (the contrast between the thoughts of heresiarchs and the following "Hear, hear. Prolonged applause. Zut! Nom de dieu!") is replicated and shown. The

dialogic nature of process and system is shown; that which represents process tries to understand the system (Stephen with ashplant waiting to be spoken to) and that which is understood in the system tries to communicate with the process (the familiar calling Steeeeeeeeeeeephen). That doubleness is personified as two men at "the verge of the cliff, watching." The observation is characteristic of this first stage of Musement. They too (they "two") keep their eyes on the (model of information transfer) mailboat: "She" is making for Bullock harbour. The destination is known; before, the destination of the mailboat was not known. The "verge of the cliff" is an important boundary -- the cliff is the last ground before the sea, the ground of the text (or the ground upon which a staff or ashplant can make marks) in vertical relationship to a semantic encyclopedia, the polysemantic meanings of all time.

"Businessmen, boatman": the doubleness of the expression plane is marked by difference or by two distinct functions. One function is that of businessman, of production through exchange systems, and the other function is that of carrying the production through the different channels, ports, and seas. The businessman is concerned with the process of production so that supply and demand are controlled for a profit; he is more concerned with the "selling" and less concerned with the reception of the product in terms of how it is used or what it may mean in terms of effect upon the consumers once the transaction is

made. The boatman is more concerned with the system of exchange, not only because of the network of possible channels he navigates the production through, but also because of the different values placed upon the product - the different rates of exchange. Their functions are reciprocal. The businessman sees the destination (he says "She's making for Bullock harbour"); and the boatman predicts the outcome. The first notes direction, the second measures place and time (he says, "There's five fathoms out there . . . It'll be swept up that way when the tide comes in about one. It's nine days today").

The doubleness of the expression plane, marked by the different but related functions of the businessman and the boatman, noticed in the two shafts of daylight and earlier at the repetition of the word gurgling, is made visibly and audially dialogic in the content plane. That doubleness of the content plane, the connotations applicable to process and to system, was recognized by Stephen upon the appearance of the milkwoman, who led him to discover the difference between the voice and the word (the difference between the phonic and glyphic nature of language). She is being and non-seeming, and thus represents a "secret" morning, and that "secret" is manifest by "the man that was drowned," who says "'Here I am'" to the sail waiting in the bay for him. His material nature is that of "a swollen bundle" - he is the manifestation of the polysemantic nature of meaning itself, swollen because of its fullness, its semantic encyclopedic

nature, bobbing up on a blank bay, the possible channel of communication in its potentiality. He, too, is thus "non-seeming" and "being" in its most absolute sense.

The doubleness of the expression plane present in the space of representation watches the process and discusses the potential outcome of the process of content becoming a swollen bundle of "meaning," the process of content manifest not for its literal sake but because it can be "non-seeming." At least this is so for Stephen from his perspective. This is exactly a representation of the doubleness of Stephen's thoughts, thoughts ("Zut! Nom de dieu!") which "beg for the favour" that the milkwoman's "secret" contains - a connotative content. A new content which can be part of the process and the system of the Stephen whose "slow growth and change of rite and dogma like his own rare thoughts" (U 21/22) needs to be represented. Though the passage may seem intrusive it has been prepared for by the process Stephen has gone through, a process which has clarified a whole system with a double expression plane for both himself and for the reader. This passage represents what Stephen next needs to understand ("Zut! Nom de dieu" or Damn it in the name of God if he doesn't!) if he is to be a writer of secrets that would make the church jealous. And that is that the literal self (which he had seen between Buck and Haines earlier) which had led him to errors or possible errors (the cigarette should not have been taken if the milkwoman's example were to have been followed) must be thought of not as

an inferior being who performs odd jobs for the self-conscious self, but instead as a content plane whose bundle of meanings can be expressed by that self-conscious self (the one who sees himself, or an image of himself, within actual reality). The literal self thus takes on an important role in relation to the double expression plane. It is "universal." The transformations that are understood in Proteus have their origins here, but the idea will have been considered in Nestor: the importance of the message is certainly not lost upon Stephen.

Our understanding of Ulysses as system and process allows us to measure what we have said against that which other methods of approach have determined. Little has been said about the businessman boatman passage, although traditional criticism, based on a clear separation between narrator and narrated, should have found the shift a bit perplexing, at least as perplexing as that labelled "stylistic eccentricity" in the other episodes. There is a shift to a different focus to be sure. One example of what has been said is from Joyce's Moraculous Sindbook:

The sudden appearance of two men searching for a drowned body focuses the theme of 'Telemachus,' once again, on the psychological terrors of enclosedness: [the same passage cited above is included]. The spectators await a corpse returning from its unholy novena in the womb of the sea. Like Lycidas, the drowned man has 'sunk beneath the

water floor' and will rise again. But he will be resurrected as nothing more than a 'swollen bundle' bobbing to the surface, a mutilated image with 'puffy face, salt white.' The corpse is a paradigm of the alien, the man who has become an object engulfed by inanimate matter. As part of a mechanistic universe, the dead body is reduced to the space it occupies. It can be identified numerically in temporal and spatial terms: 'five fathoms out there'; 'nine days today.' The drowned man has become food for fishes, and his 'salt white face' is reminiscent of the Dantesque 'salt bread' of exile that Stephen himself consumes. Stephen ironically concludes with the phrase 'Here I am' placed in the mouth of the dead man. The corpse no longer enjoys a personal ego and cannot participate in Being-there, the Dasein described by Heidegger. The drowned man has been asphyxiated by total immersion in an alien environment. His remains are distinguished as 'not-I,' matter whose spatial location here is devoid of the existential Being-there that defines human experience. Stephen's satirical animation of the body is characteristic of an episode of metamorphoses. In the bizarre world of 'Telemachus,' dead men speak and living men are transformed into weird amphibians (Henke, Moraculous Sindbook, 30-31).



The advantages of our approach include a functional reason for the presence of the passage: to conclude that Stephen is ironic and satirical in a "bizarre world" is not enough, and at least slightly inaccurate. How could Stephen have the confidence to be so satiric if "in 'Telemachus' he inhabits a closed, almost paranoid world of physical and mental asphyxiation" and "nervously hovers in the dark Martello tower" and "fears being overwhelmed by the claustrophobic objects of a hostile, foreign environment"? (Henke, 15-6). It seems as if the objects in the space of representation have a life of their own, are perceived by characters who are either paranoid toward them or sarcastic toward them, and are written into the episode by a narrator who is separated from both and who tells an entertaining story -- and the more we read the explanations the more tangles they create (we may wonder whether Stephen has overheard the businessman and boatman, or wonder why the narrator has chosen the businessman and boatman and not others, wonder why Stephen does, or doesn't feel satiric toward their watching, especially if he is paranoid, and so on). With our approach, there is motivation for the elements, and, in addition, we can see the relationship between represented and representing as a process of thought revealed in a sequence of words. The world of Stephen and what he perceives is part of, not separated from, the world of the 'narration' which is traditionally and incorrectly

thought of as being 'controlled' by a separate, human, monosemic "teller." The system and the process interact.

The part Stephen plays in the process has been evident at least to Stephen who sees his own image and hears the ferrule call his name; but just what that part entails has been a problem for Stephen until now. He had considered the image of himself a series of odd jobs mandated by a master who was other than himself. Now he sees a new "literal" self whose relationship to the world around him and world within him is filled with potential. He will be the master of what he creates. Abduction has suggested a process which could provide a new type of literature. What he half sees and half creates, as Wordsworth before him, is part of the natural system. And as system it is the basis for his expression model-system.

The sail waiting to pick up the 'swollen bundle' is "synechdoche. Part for the whole" (U 573). The sail stands for the ship. It was earlier seen "tacking by the Muglins" (U 18/20) when in a "bright instant" Stephen saw the mailboat "vague on the bright skyline." Stephen, understanding the concept of the whole, needed to understand his "part." And this he has done. As the sail, or whole vehicle of information transfer waits to pick him up, he finds that those odd job series of actions have their place in the whole, for without them there would be no "center of gravity" (U 589/574). His relationship to the businessman and boatman

is his relationship to process and system in his understanding of the artistic process.

The winding path Haines and Mulligan follow is top-sensitive in respect to the winding path involved in the part to whole, whole to part relationships which are inherent in a well-constructed system, relationships which Stephen has conceptually, though not consciously, considered. The young man and elderly man who appear once they reach the forty-foot hole seem as unmotivated as the businessman and boatman, unless, once again, Stephen's position is considered:

They followed the winding path down to the creek. Buck Mulligan stood on a stone, in shirtsleeves, his unclipped tie rippling over his shoulder. A young man clinging to a spur of rock near him, moved slowly frogwise his green legs in the deep jelly of the water.

--Is the brother with you Malachi?

--Down in Westmeath. With the Bannons.

--Still there? I got a card from Bannon. Says he found a sweet young thing down there. Photo girl he calls her.

--Snapshot, eh? Brief exposure.

Buck Mulligan sat down to unlace his boots. An elderly man shot up near the spur of rock a blowing red face. He scrambled up by the stones, water glistening on his pate and on its garland of grey hair, water rilling over his chest and

paunch and spilling jets out of his black sagging loincloth (U 21-2/23).

These details are dependent upon Stephen's process of abduction. Kenner says of the latter paragraph about the elderly man: "How exact that rilling and spilling! This second narrator, vivid narrator, Muse, flaunts skills such as Stephen covets, hence a somewhat misleading likeness to Stephen's idiom. To perceive his clearly we must wait till Stephen is offstage and the only person present is Leopold Bloom" (Joyce's Voices, p. 72; Kenner's emphasis). Kenner circumscribes Stephen's cognitive skills and explains the second narrator with this example which is actually within Stephen's ability. As Kenner himself seems so well to recognize, the narration and the perception/thoughts of the character are transparent to each other. But why must Stephen be absent before we can fully recognize what Kenner establishes as the second narrator? Kenner's defines the second narrator in terms of Stephen's potential. Yet Stephen's potential is the basis of abduction; abduction is future-related.

The elderly man could very well be imagined. Or partly imagined. Or real. Stephen's perceptions are still reflecting his process of abduction. Clearly a change has occurred in traditional narration that warrants explanation as to why what is traditionally "narration" is now influenced by the presence of Stephen. The change is from a text which traditionally includes only dyadic representations to one

which is triadic. Rather than create another narrator, we can explain the change in terms of the understanding that Stephen necessarily has about the system, process of communication. Because of abduction, he understands that he is part of both. He is in possession of the semantic encyclopedia, that "swollen bundle." The system of the text is responding to his understanding of the double expression system and the change he would have to experience if he were to be a writer in a system. We are reading both cognition dependent and cognition independent reality in the final two pages of the episode. We have frequently reiterated Hjelmslev's remark that the process determines the system. And the process Stephen has experienced has led to the heart of the system, to a transformation of his own understanding of himself. Stephen's abduction includes speculation about possible worlds. If it is Stephen who imagines and takes on the response of the hypothetical body of a drowned man and says "HERE I AM," then it is also Stephen, who with the enacting of a "secondary phantasy system," or "possible worlds" (invention) can express the infinite polysemy of individual reality. No distinction is made between cognition-dependent (Stephen's) and cognition-independent (the "text's") details for this reason.

Boldly, let us consider the passages about the young man and the elderly man as part of Stephen's experience. What we then have is a context which exposes two kinds of elements: (1) the falsity of Buck's behavior toward men and toward

women and (2) the language which is used by the men as a measure of that "falsity." It is the language of Eumaeus. It is Stephen's secondary phantasy system which the system, dependent on the process of Stephen, incorporates into the text as a necessary element. Without it Stephen would not leave the tower, and, more importantly, we would not have the phantasy systems of Bloom, Molly, and the text itself. Nor would we have the catalogues with built-in "polysemy." Nor would we have the sense of delight when we find Milly write to her father "I am getting on swimming in the photo business now. . . . There is a young student comes here some evenings named Bannon his cousins or something are big swells'"

(U 66/65-6) if we had not found Bannon mentioned by the "frogman" and Milly discussed as his "sweet young thing . . . Photo girl he calls her." The delight in our reading is due to the supposed impossibility of the latter being derived from a suggestively lewd remark in Telemachus by an unnamed intruder. The material of section two is actually an application of the hypothesis. Other expectations of the reader are broken during the course of the novel, but first among these are the unnamed elderly man and young man. They are results of abduction. The last we hear of the young man, he is "in the bed" or waterhole waiting for Buck's "plump body" to plunge in; the elderly man is more enigmatic.

Images and phrases used to describe the elderly man will appear and reappear in various contexts throughout Ulysses. He speaks no words. He is described and then scrambles past

Buck Mulligan who "crossed himself piously with his thumbnail at brow and lips and breastbone" (U 22/23). Buck's gesture, mock religious, is a supposition of meaning which aligns the elderly man with the false priesthood. "The priest's grey nimbus in a niche where he dressed discreetly." Stephen here considers overturning conventions and revealing the secrets showing the effects of such supposed infallibility the church presumes to have (effects upon individuals and society). The method suggested in abduction would allow for such a kind of writing. As "he walked along the upwardcurving path" he thinks: I will not sleep here tonight. Home also I cannot go" (U 23/24). The key has been handed to Buck who plunged into the bed of the water to join the young man. The elderly man will, as a false priest, also be joined with Buck in Circe. The speculation of Stephen (the imposition of meaning of the secondary phantasy system) here in Telemachus is the origin of the phantasy system found in Circe. It is the origin of the first references to Bloom and his family. It is found in words Stephen would use were he the writer of the novel.

A voice, sweettoned and sustained, called to him from the sea. Turning the curve he waved his hand. It called again. A sleek brown head, a seal's, far out on the water, round.

Usurper (U 23/24).

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One other voice called to him earlier: "My familiar, after me, calling Steeeeeeeeeeephen" (U 20/21). Then he was only understanding the dependence of the system upon the process. His own voice was imagined in the blank bay: "Here I am" (U 23). As Stephen retraces his marked thoughts "along the upward curving path" (U 23/24) and turns a curve he is called and waves to that call. It is to his 'other' he waves. It called again. The voice calling to him is not Buck's. Buck is near; the voice is "far out on the water." The usurper is not Buck, though all previous criticism has accepted it is.

At the end of Proteus Stephen will again imagine someone behind him and will turn:

Behind. Perhaps there is someone.

He turned his face over a shoulder, rere regardant. Moving through the air high spars of a threemaster, her sails brailed up on the crosstrees, homing, upstream, silently moving, a silent ship.  
(U 51/51)

But by then he will have learned much, including the importance of a silent sign-vehicle. He will have learned the value of his conjectures in Telemachus. At the end of Nestor:

On [Deasy's] wise shoulders through the checkerwork of leaves the sun flung spangles, dancing coins (U 36/37).



The sun will be operating as both a natural and artistic presence. In all conclusions of the first three episodes, Stephen is aware of the system of the potential text he is considering. In Telemachus it has a voice which calls to him as he retraces the thoughts on the path. Then he gave voice to an hypothetical corpse; now he, as he retraces his steps, hears the voice from the perspective of "the third." In Nestor the voice itself will be further connected with deceit; the sun will be connected with the "secret" of a graphic, written text, and the sun will "comment" rather than a voice. In Proteus, the phonic and glyphic will be considered as complementary aspects of language. Language is cognition dependent and can present present and absent things, much like Stephen's thoughts which include 'real' and 'unreal' elements of his context.

At the end of Telemachus what has been usurped is the space of representation by the system of the text and the space of representationality by the process of the character.

"Usurper" refers to Stephen's own insight into what the hypothesis can achieve. It can achieve a material creation with a life of its own. An independent Creator can construct a text which usurps what has (not) been. If there is a beginning to the intrusive 'I' which insinuates itself into the text of other episodes, it is here. Usurper is appropriate to both process and system, in the first case Stephen, part of the process, thinks it; in the second, it is the unique unvoiced word of the system.

NOTES  
CHAPTER III

<sup>1</sup>Pope is here writing of Virgil, (lines 132-35), quoted in Joel Weinsheimer, "The Realism of C. S. Peirce," American Journal of Semiotics 2-1/2 (1983), 256. In his excellent article, Weinsheimer discusses the implications of Peirce's realism to aesthetics: "Peirce indicated the line of transition from realistic science to a realistic aesthetic when he wrote:

The work of the poet or novelist is not so utterly different from that of the scientific man. The artist introduces a fiction; but it is not an arbitrary one; it exhibits affinities to which the mind accords a certain approval in pronouncing them beautiful, which if not exactly the same as saying that the synthesis is true, is something of the same general kind (CP 1.383; see also 5.535).

In a markedly un-Kantian way, Peirce called into question the antithesis of the true and the beautiful, as well as that of truth and fiction. By definition, no fiction represents the actual, but that does not preclude fictions from being true, for the true represents the real, and the real is a category more comprehensive than the actual since it includes real possibilities and real generals. Such possibilities and generalities are precisely the object of science as well as art insofar as science is not the

intuition of the thing in itself but rather the search for general laws by means of hypotheses, the (potentially true) fictions of science (CP 5.534). What Peirce suggested is that the beautiful can have this same kind of cognitive import, that literature can be true, that Homer and Nature can be the same," p. 256. In short, the same is true of James Joyce who also called into question Kantian aesthetics and who wrote in his Aesthetic Notebook that the artistic process is like that natural process. The title of his novel poses the same relationship.

<sup>2</sup>The Structure of the Artistic Text, trans. Gail Lenhoff and Ronald Vroon (Ann Arbor: The Univ. of Michigan, 1977), p. 62. In this section of his chapter, "Text and System," Lotman discusses the process of cognition, pp. 57-69. Unfortunately Lotman concludes that "Art is not play," p. 68. He believes that scientific models are cognitive means of organizing intellect, but he does not accord this function to art, which has some elements of play within it (though it is not itself play).

<sup>3</sup>Hjelmslev, Prolegomena to a Theory of Language, trans, Francis J. Whitfield (Madison: Univ. of Wisconsin, 1969), p. 50. Subsequent references will be included parenthetically.

<sup>4</sup>The difference between the general and the singular expression-substances can be, and usually is seen as being, a difference in time and space. Usually the narrative

persona is thought of as being in one time (and space) and the character in another. In Ulysses the process of mediation in this passage unites them, wherein I mean by unite the same as what Hjelmslev means when he discusses substances sharing a purport. As the novel progresses through the time of reading and through the time represented, one becomes aware that the traditional division of the narrator and the focalizing character is itself a convention.

Roberta Kevelson discusses a relationship between Peirce's concept of time and his semiotic in "Time as Method in Charles Sanders Peirce," American Journal of Semiotics 2-1/2 (1983), 85-107. Time can be a method of methods: "in the highest or governing level of logic the continuum of time parallels the development of a cohesive idea." p. 89. If we consider Joyce's ideas on this relation, they are similar. In the essay "Portrait of the Artist," Stephen discusses a portrait that "is not an identificative paper but rather the curve of an emotion," (Robert Scholes and Richard M. Kain, The Workshop of Daedalus, p. 60). The three conditions of art discussed in the Aesthetic Notebook, and their connection which is discussed as progressing from the lyrical to the epical to the dramatic within one single work (in Stephen Hero and in Portrait) makes a similar relation between the continuum of time and the development of a cohesive idea. Peirce writes "thought cannot be comprehended in terms of the feelings which are its ultimate

elements. It is a continuum of feeling, and is related to a feeling as a line to a point" (MS 396.1) quoted in Kevelson, p. 96. This continuum of feeling is quite like the curve of an emotion, and thought unites them. This area of the novel (and of both Joyce's and Peirce's ideas) deserves more careful attention than that which can be provided here. For a survey of what has been written on time in Joyce's works, see Margaret Church, "Time as an Organizing Principle in the Fiction of James Joyce," Work in Progress: Centenary Essays, ed. E. L. Epstein, pp. 58-69.

<sup>5</sup>Stephen's "habit of expectation" concerning artistic principles is operative in the following ways. First, it is shown in his theory about art which will be 'presented' to George Russell and others at the National Library in the afternoon. The theory which Buck mentions to Haines, before Stephen himself refers to it (in the novel), is worded as follows: "He proves by algebra that Hamlet's grandson is Shakespeare's grandfather and that he himself is the ghost of his own father" (U 18/19). Clearly, the theory has been announced and somewhat discussed before the morning of June 16, 1904. The theory is an important part of Stephen's habit of expectations and suggests the desire he has to write a self-generative, self-reflexive work of art. Buck's own artistic performance of mocking the doctrine of trans-substantiation is the context, and the context also motivates the element of surprise.

<sup>6</sup>Constantin-George Sandulesco, "Joyce: Ehipany and Code," in A Semiotic Landscape, eds. Seymour Chatman, et. al. (The Hague: Mouton, 1979), p. 709.

<sup>7</sup>The James Joyce Archive, ed. Michael Groden (New York: Garland, 1978), vol. 17, p. 99.

<sup>8</sup>Robert Boyle, "Worshipper of the Word: James Joyce and the Trinity," in Starchamber Quiry, ed., E. L. Epstein, p. 140.

<sup>9</sup>Shari and Bernard Benstock, "The Benstock Principle," in Seventh of Joyce, ed. Bernard Benstock (Bloomington: Indiana Univ. Press, 1982), p. 19.

<sup>10</sup>Subsequent references to Eco's Theory of Semiotics will be included parenthetically.

<sup>11</sup>Peirce would have been careful to keep rational psychology separated from emotional psychology, as Joyce himself distinguished between the two in his review of Schiller (discussed in the above chapter). The functional, symbiotic and situational circles can be seen as icons of what is discussed in more logical terms in Peirce. I have decided to use these circles because of their iconic value, since, after all, the images in the text do carry such import. Clearly Stephen is considering an originary source of meaning relationships, an activity which is very related to abduction, which is the originary source of ideas, as mentioned above. At the same time, Stephen is also

experiencing the discovery that there is no absolute individuality, as Peirce frequently mentions (as in the above quoted passage about Philip drunk and Philip sober).

<sup>12</sup>Roland Barthes, Image/Music/Text, trans. Stephen Heath (New York: Hill and Wang, 1977), p. 175. Subsequent references will be included parenthetically.

<sup>13</sup>Peirce himself defines the Play of Musement in an argument to show the reality of God: "This is a specimen of certain lines of reflection which will inevitably suggest the hypothesis of God's reality. It is not that such phenomena might not be capable of being accounted for, in one sense, by the action of chance with the smallest conceivable dose of a higher element; for if by God be meant the Ens necessarium, that very hypothesis requires that such should be the case. But the point is that that sort of explanation leaves a mental explanation just as needful as before. Tell me, upon sufficient authority, that all cerebration depends upon movements of neurites that strictly obey certain physical laws and that thus all expressions of thought, both external and internal, receive a physical explanation, and I shall be ready to believe you. But if you go on to say that this explodes the theory that my neighbor and myself are governed by reason, and are thinking beings, I must frankly say that it will not give me a high opinion of your intelligence. But however that may be, in the Pure Play of Musement the idea of God's Reality will be

sure sooner or later to be found an attractive fancy, which the Muser will develop in various ways. The more he ponders it, the more it will find response in every part of his mind, for its beauty, for its supplying an ideal of life, and for its thoroughly satisfactory explanation of his whole three fold environment," (6.465).

Peirce explains, in a passage which relates to Stephen's own use of Berkeley on Sandymount Strand in *Proteus*, that "In 1871, in a Metaphysical Club in Cambridge, Massachusetts, I used to preach this principle [of Pragmatism] as a sort of logical gospel, representing the unformulated method followed by Berkeley, and in conversation about it I called it "'Pragmatism.'" (6.482). That method leads to Peirce's statement that "it is the course of meditation upon the three Universes which gives birth to the hypothesis and ultimately to the belief that they, or at any rate two of the three, have a Creator independent of them" (6.483). Here in *Telemachus* Stephen's expression model contains aspects of such a hypothesis. As Stephen continues to consider the hypothesis, he is led to the belief that the Creator is independent of the three Universes, witnessed in his statement in the National Library that he no longer believes in his Hamlet theory.

<sup>14</sup>Aristotle, On the Soul, 432a, trans. J. A. Smith, The Works of Aristotle, W. D. Ross, ed., rpt. in Great Books of the Western World, vol. 8, Aristotle: I (New York:



Encyclopaedia Britannica, 1952), p. 665. The pages and columns of the Standard Berlin Greek text are indicated by the number and letter above (432a); they are assigned as in the Oxford translation.

<sup>15</sup>Aristotle, On the Soul, 429a.

<sup>16</sup>Peirce, Semiotic and Significs: The Correspondence between Charles S. Peirce and Victoria Lady Welby, ed. Charles S. Hardwick (Bloomington: Indiana Univ. Press, 1977), p. 10.

<sup>17</sup>Constanzo Di Girolamo's discussion of Hjelmslev's theory provides an excellent corrective to recent popularizations of it. His illustrations depicting the connotative semiotic and metasemiotic of the connotative semiotic have been adapted for use in demonstrating the relation between the expression and content planes in Telemachus. Purport is not depicted in the figures and needs to be considered as that which allows for the existence of the sign-function. See Si Girolamo, A Critical Theory of Literature (Madison: Univ. of Wisconsin Press, 1981), pp. 6-9, especially, for a further discussion of the terms. The terms themselves (e.g., metasemiotic, connotative semiotic) are Hjelmslev's. Hjelmslev discusses them in his Prolegomena.

<sup>18</sup>Peirce writes about the two worlds as an example of secondness: "We live in two worlds, a world of fact and a

world of fancy. Each of us is accustomed to think that he is the creator of his world of fancy; that he has but to pronounce his fiat, and the thing exists, with no resistance and no effort; and although this is so far from the truth that I doubt not that much of the greater part of the reader's labour is expended on the world of fancy, yet it is near enough the truth for a first approximation. For this reason we call the world of fancy the internal world, the world of fact the external world. In this latter we are masters, each of us, of his own voluntary muscles, and of nothing more. But man is sly, and contrives to make this little more than he needs. Beyond that, he defends himself from the angles of hard fact by clothing himself with a garment of contentment and of habituation. Were it not for this garment, he would every now and then find his internal world rudely disturbed and his fiats set at naught by brutal inroads of ideas from without. I call such forcible modification of our ways of thinking the influence of the world of fact or experience. But he patches up his garment by guessing what those inroads are likely to be and carefully excluding from his internal world every idea which is likely to be so disturbed. Instead of waiting for experience to come at untowards times, he provokes it when it can do no harm and changes the government of his internal world accordingly" quoted in The Philosophy of Peirce: Selected Writings, ed. Justus Buchler, (London: Kegan Paul, Trench, Trubner 1940; rpt. 1978), p. 87-88.