The St. John's Review

Volume XLI, number one (1991-92)

The *St. John's Review* is published three times a year by the Office of the Dean, St. John's College, Annapolis: Christopher B. Nelson, President; Eva T. H. Brann, Dean. For those not on the distribution list, subscriptions are $15.00 per year. Unsolicited essays, stories, poems, and reasoned letters are welcome. Address correspondence to the *Review*, St. John's College, P.O. Box 2800, Annapolis, MD 21404-2800. Back issues are available, at $5.00 per issue, from the St. John's College Bookstore.

ISSN 0277-4720

Desktop Publishing and Printing
The St. John's College Print Shop

Contents

The Body Electric

Howard Fisher

I. Does the electric eel shock itself?

In the dialogue *Meno*, that otherwise unmemorable character establishes his own lasting memorial by creating one of the most memorable similes in all the dialogues of Plato: Socrates, he says, is like the *torpedo-fish* (Figure 1) whose shock plunges his prey into a stupid paralysis.[1] Meno calls the simile his "little jest"; and while Socrates does agree to accept the supposedly playful image, he makes one qualification:

> If the torpedo torpifies itself while making others torpid, then I may be compared with it; otherwise not.[2]

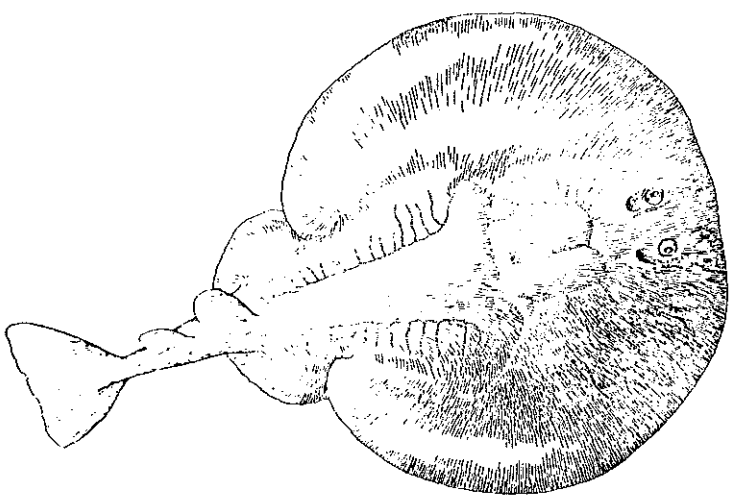


FIGURE 1: Torpedo-fish (after Grundfest)

Howard Fisher is a tutor at St. John's College, Annapolis. This lecture was given at the College in October, 1991, to mark the bicentennial of Faraday's birth, on September 22, 1791. Figures 1-4 are by John Langley Howard. They are reprinted with permission from the article "Electric Fishes," by Harry Grundfest, in *Scientific American*, October, 1960, p.122.

Torpidity in the fish's victim represents the perplexity and ineptitude displayed by one who, like Meno, has been forced under Socratic questioning to acknowledge his own ignorance. Thus the turn Socrates gives to Meno's simile means, first of all, that Socrates paralyzes his respondents not through mastery but through deficiency: through the same mortal ignorance that Meno has been brought painfully to face in himself.

But scarcely concealed beneath Meno's by now brittle jocularity lies another element, and a disturbing one. Meno's image of Socrates is rife with allusions to the magical and supernatural. He declares that Socrates is "bewitching" him with "spells and incantations," and that in any other city Socrates would be condemned as a "wizard." This more sinister theme casts Socrates as other-worldly, with an inhuman and perhaps unnatural power over men, as the weird powers of the torpedo-fish set it apart from more conventional carnivores. Socrates' correction of the simile thus has a second meaning also: If the torpedo-fish is subject to the same power that it itself exercises, then the fish is part of the natural order; and its power is likewise a natural, not a magical one.[3] Similarly, the Socratic power that derives from *knowing that one does not know*—a power to neutralize conventional opinions and break their merely habitual hold over us—will be a human, not a diabolical, power. So much so, for Socrates, that to love wisdom rather than dogma, to be *philos sophōi*, is to exercise the very paradigm of human powers.

But *does* the torpedo-fish torpify itself? Is the creature an exemplar of *diabolical power*, as in Meno's simile, or of *activity according to nature*, as in Socrates'? And we might frame a similar question about any of the other animal species with well-developed electric organs who hunt their prey seemingly Zeus-like, hurling down potent electric blasts upon their doomed victims—the *Raia* or electric skate (Figure 2), the *Malapterurus* or electric catfish (Figure 3), and the *Gymnotus* or so-called "electric eel" (Figure 4).[4] *Does the electric eel shock itself?* That is the question we shall regard as having been suggested by Meno's simile and Socrates' reply. But it reflects a larger question: What is the relation in nature between an agent and its own power?

In November of 1838 Michael Faraday, the great experimentalist and natural philosopher, reported to the Royal Society on "the character and direction of the electric force of the Gymnotus."[5] Faraday had long been trying to obtain an electric eel [1752];[6] and in August of 1838 a certain intrepid Mr. Porter succeeded in bringing one to London from South America, where it had been captured five months before. Porter sold the creature to an establishment in Adelaide Street whose proprietors generously made it available to Faraday for such scientific researches as should be consistent with "a regard for its life and health" [1754]. This was not Faraday's first encounter with animal electricity. He had in 1833, some five years before, established the probable identicality of all forms of

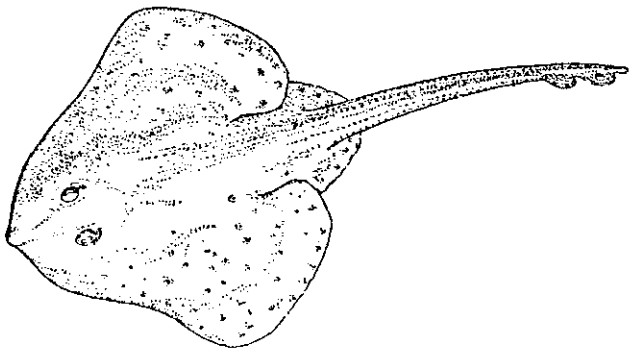


FIGURE 2: *Raia* (after Grundfest)

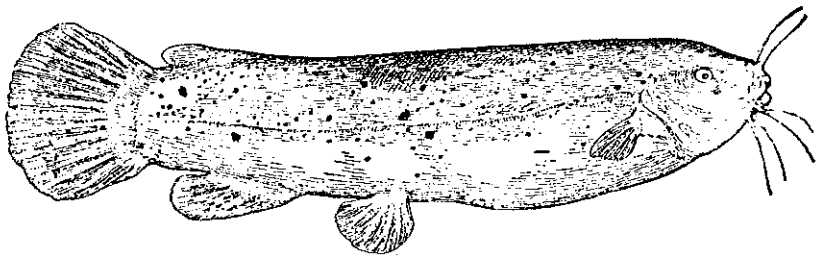


FIGURE 3: *Malapterurus* (after Grundfest)

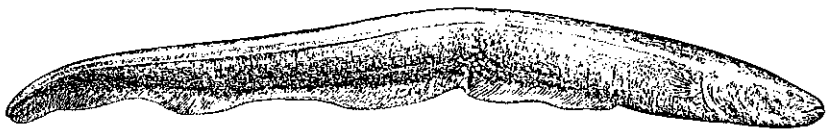


FIGURE 4: Faraday's *Gymnotus*,
the modern *Electrophorus* (after Grundfest)

electricity, including animal electricity;[7] and in 1814-15 he had assisted Humphrey Davy in tests, at that time inconclusive, to see whether the shock of the "electric fish" could decompose water.[8]

Faraday's reports to the Society from November 1831 on, along with other writings, were republished by him in a collection called *Experimental Researches in Electricity*, a project that was to grow to three sizable volumes by 1855. The *Experimental Researches* is a remarkably dialectical book in which topics persistently appear and reappear, developing often in new and surprising forms that both draw from and contribute to other, at first seemingly disparate, investigations. The researches are chronologically organized into twenty-nine numbered "Series"; and while each Series has an identifiable area of inquiry, multiple strands of tributary or even tangential investigations are continually encountered and freely admitted to the narrative. In fact, rather than call these narrative units merely "series," I prefer to think of them as comparable to the *sallies* of Don Quixote. They are exploratory journeys, sometimes into new, sometimes repeatedly into the same territory; and in them the protagonist appears to exert only a moderate effort to shape or regulate the adventures that ensue.[9]

Also available to us is Faraday's laboratory *Diary*, a no less remarkable production, in which his laboratory work is recorded sequentially and in complete detail for a span, seldom interrupted, of forty-two years. Not everything in the *Diary* could possibly be suitable for publication, of course, but it is amazing how much of the *Diary* did find its way into papers and letters and thence into the *Experimental Researches*. I will occasionally refer to the *Diary* for some items Faraday did not publish.

Faraday's 1838 Gymnotus report makes up the Fifteenth Series of Experimental Researches, and I am delighted to be able to say that in it Faraday actually touches on our question—whether the electric eel shocks itself. True, he mentions it only in passing, and his answer—that "the animal does not apparently feel the electric sensation which he causes in those around him" [1772]—is only a guess.[10] But it is rather charming that Faraday should raise the question at all. Indeed the entire Gymnotus report is charming, with its description of the fish and its history, its inclusion of part of a letter from Humboldt on proper care and feeding ("cooked meat, *not salted*"), and even the delightful sketch, which we shall return to later, of the Gymnotus in his tub[11] (Figure 5).

Repeatedly in Faraday's report we find signs of a wondering and appreciative eye for the striking and exotic in nature. Faraday calls the Gymnotus "this wonderful animal" [1769]; and the word "wonderful" actually begins the paper. But what is the source of Faraday's wonder, in which presumably we too are to share? Is it exclusively the animal's strangeness and mystery—that, as Meno intimates, it goes somehow beyond the bounds of ordinary nature? Or is Faraday capable, and are we, of bestowing wonder on other than the spectacular and the

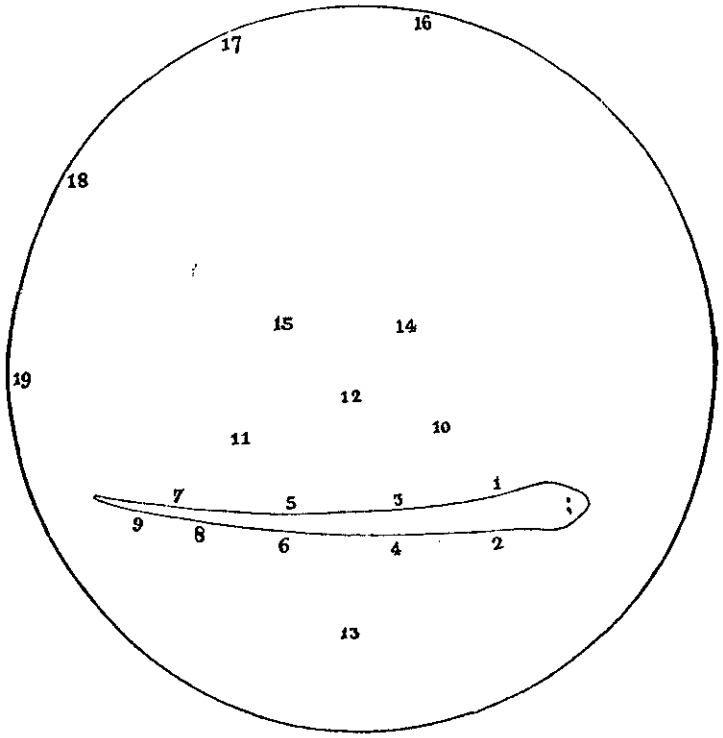


FIGURE 5: (from ERE)

arcane?[12] Faraday characterizes the wonder *he* has in mind at the outset of his paper:

> Wonderful as are the laws and phenomena of electricity when made evident to us in inorganic or dead matter, their interest can bear scarcely any comparison with that which attaches to the same force when connected with the nervous system and with life . . . [1749]

Clearly the interest raised by animal electricity is not that it goes *beyond* nature. Rather what is compelling here is precisely the *conformity* between Gymnotus's living power and the more prosaic electrical phenomena associated with inorganic bodies.[13] Electrical powers formerly thought to be confined to "inert" matter are here seen to be exercised by living beings also. Such a communion of powers holds promise for the expansion of our existing knowledge—a promise Faraday is all the more keen to acknowledge because its importance has not been widely appreciated:

> [T]hough the obscurity which for the present surrounds the subject may for a time also veil its importance, every advance in our knowledge of this mighty power in relation to inert things, helps to dissipate that obscurity, and to set forth more prominently the surpassing interest of this very high branch of Physical Philosophy. [1749]

This is a statement about the order of discovery in nature. Faraday here notes that advances in our understanding of *inorganic* powers will shed light in turn upon *living* processes. Later in the paragraph, Faraday voices his belief that we are "upon the threshold of what . . . man is permitted to know of this matter." I take seriously the qualification: *permitted* to know. The promise of animal electricity has nothing to do with forbidden knowledge, wizardry, or things unnatural. Faraday seems to affirm that, just as inorganic forces lie well within the domain of standard science, so an understanding of living forces stands as a merely more distant, but assured, prize.

Yet Faraday's mention of the "surpassing interest" of animal electricity presents animal processes as more than mere extensions of inorganic ones. "Surpassing" interest suggests almost a reverse order of discovery: that exercise of a power by a living being may prove to be visible and intelligible in ways that power exercised by inert matter alone is not. I see two areas in particular where animal electricity might prove to be especially illuminating.

First, in animal electricity we have an instance of *one identical power* exercised both by living and nonliving agents. The baffling relation between an agent and the power it exercises may be more accessible when it is viewed in the comparison between a living and a nonliving system; and if so, knowledge of the animal may contribute as much to our knowledge of the inorganic system as the other way around.

Second, a living creature's ability to respond to and alter its environment *by intention or habit* adds a new interpretive dimension to the animal's *electrical* relations with its surroundings. The general relation between an agent and its surrounding medium may therefore stand forth more pointedly when exemplified by a living agent. In fact I will argue that the *electric fish* does become for Faraday an explanatory image for inorganic agents, and particularly for the *magnet.*

If the new knowledge intimated by animal electricity is, as I said, not an uncovering of things hidden and forbidden, it must be a knowledge of things which are already there to be seen, but which we have not yet learned to see.[14] Knowledge of this sort will therefore in large measure consist not in the content but in the mode of vision—or one might say, in *rightness of vision.*[15] In the case of Gymnotus, gaining such orthoscopy begins with the quest for an adequate image of the fish himself. Much of Faraday's activity in the Fifteenth Series is concerned with bringing this image to light. Faraday's experiments with

Gymnotus are as much concerned with eliciting images of the animal as with establishing factual information about him.

Besides Faraday's own experiments, conventional anatomy plays a role in originating the elements of the Gymnotus images. For example, Faraday is aware that the electric organ tissues are of muscular derivation; he cites Geoffroy St. Hilaire, who classifies them not with the organs of higher life functions but among "the common teguments"[16] [1789]. What this means is that the fish's electric apparatus is comparable in its office to any of the ordinary muscular organs, for example to the locomotory structures, the *fins*.

Gymnotus's anal fin, which runs some 4/5 of the length of the body, is that animal's principal locomotory organ (see again Figure 4). The fish propels itself forward or backward by sending a sinusoidal wave in the appropriate direction along the fin. But obviously the fin achieves nothing except when the fish is surrounded by its watery medium. Likewise for land animals; hands and feet achieve nothing in the way of locomotion except in reaction to a resisting medium or surface.[17] Bearing that in mind, I hope you will not think it too fanciful of me to suggest that, from a locomotory point of view, the *medium* ought to be counted as *part of the body*. Faraday, I hasten to say, makes no such interpretation of the mechanics of animal locomotion. But electrically, at least, his researches with Gymnotus will contribute to a new image of body, extended continuously throughout the medium and contiguous with all other bodies through its own activity. The Body Electric will possess a distinctive shape and will call for new principles of anatomy.

II. The Experiments of 1838

Faraday's experimental exercises with Gymnotus fall into two classes. The first of these may be called "identity" experiments. In them, Faraday confirms through his own work the conclusion he had reached in 1833 when surveying the investigations of others: the animal's electricity is identical to all other electricities in its panoply of effects—physiological, magnetic, thermal, chemical, and so on. Some of his methods are new,[18] but the experimental aims of the "identity" exercises in 1838 are unchanged from those he had reviewed in 1833.

The second exercises are wholly new. Faraday characterizes them as "experiments relating to the quantity and disposition of the electricity in and about this wonderful animal" [1769]; I will call them simply the "disposition" experiments.

The two classes of experiment are different not only in their objectives but in the rhetoric they bring to the animal's electrical powers. The bringing forth of a phenomenon in the distinctive forms given by experimental apparatus *is* a rhetoric, just as certainly as Meno's verbal portrayal of Socrates in the form of the torpedo-fish was rhetoric. We can see something of the rhetorical difference

between the "identity" and the "disposition" exercises by examining their respective apparatus. Faraday describes three kinds of what he calls "collectors," with which to sample the fish's electric action:

(1) *The hands.* Here the experimenters[19] subject themselves to shock through their unprotected hands, either grasping the fish directly or immersing the hands at various locations in the water. Employing their own bodies as experimental apparatus, the investigators stand in the most intimate possible relation to the object of their study.

(2) *The "disk" collectors.* Here the investigators make their hands only the *indirect* recipients of the shock by grasping the handles of a pair of disk-shaped copper conductors (Figure 6) and disposing the disk ends variously about the fish's watery element and on his body. These instruments give increased precision of placement, but to some extent their interposition mediates between the investigator and the shock received [1760].

(3) *The "saddle" collectors.* Here the hands are replaced altogether by a pair of copper straps, which Faraday sometimes insulates [1759] with rubber jackets (Figure 6). Instead of being hand-held, the saddle collectors sit astride the fish and are wired directly to other indicating devices [1761-66]; and thus the investigator is placed at still greater removal from the direct electrical effect.

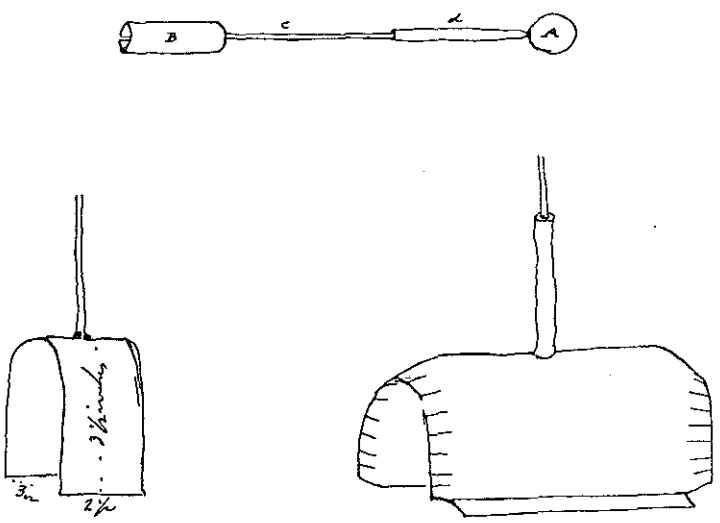


FIGURE 6: Disk and saddle collectors (from *Diary*)

In this short catalog we find an order of increasing sophistication of apparatus (from bare hands to specialized clamps), together with a corresponding regression of the observer from the locus of action. Most of the "identity" experiments make use of the saddle collectors; thus the investigator in the identity experiments makes only minimal ingression to the scene of action. He does not generally place himself in direct relation with the fish's power, but rather with apparatus that displays *concomitants* of that power.

The "identity" experiments propound a rhetoric of *mobility*. In them the power is conveyed away from the fish and its habitat. It is separable and has a nature of its own that is studied independently of the fish and in comparison to other "electricities," similarly abstracted from their respective sources. Gymnotus's power can be transferred through conductors to other venues, where it proceeds to display the same phenomena of magnetic action, chemical action, shock, spark, and so on, as do conventional electricities. Not only is this power qualitatively identical in its effects but quantitatively too: the ratio between its magnetic and chemical efficacies is consistent with the ratio Faraday had established in 1833 for Voltaic electricity [1770].

It is fair, I think, to say that the "identity" experiments are more concerned with the electricity than with the fish. Insofar as these exercises portray the fish at all, they represent him as just another electrical source; and hence two images straightaway emerge in close succession, both of which focus on the *source* aspect of the animal: Gymnotus as Leyden Jar, and, alternatively, Gymnotus as Voltaic Battery. Both these images are explored in a sequence of experiments that establish the quantity and intensity of the animal's electrical shock.

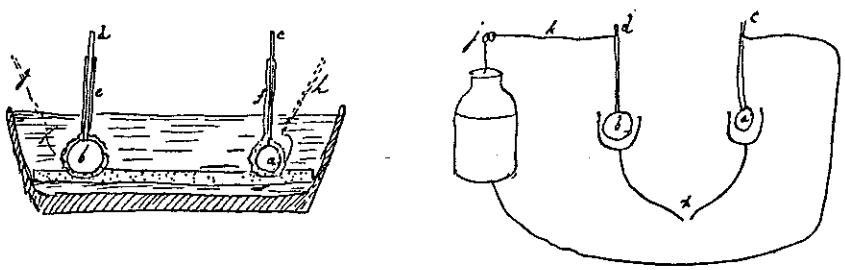


FIGURE 7: Faraday's discharge arrangement (from *Diary*)

Faraday's procedure for establishing *quantity* amounts to a sort of practical pun on the Leyden jar image (Figure 7). He substitutes for the fish in water two brass balls bearing insulated wires, which latter can be connected at will to a Leyden battery of well-documented dimensions [1770, 291]. He also includes a length of wetted string in the circuit to lower the intensity of discharge below the sparking point—for he has already found that Gymnotus's electrical intensity is too low for a spark to appear, except under the most favorable conditions [1766-67]. The Leyden battery is then given its maximum charge. When it is subsequently discharged through the brass balls into the water a shock is felt, "much resembling that from the fish." Faraday continues:

> I think we may conclude that a single medium discharge from the fish is at least equal to the electricity of a Leyden battery of fifteen jars, containing 3500 square inches of glass coated on both sides, charged to its highest degree. [1770]

Judged by the quantities of electricity typically employed in electrostatic experiments, this would be a considerable dose,[20] but one also well within the capabilities of a few moments' action by a large Voltaic battery. Quantitatively, then, both the Leyden jar and the Voltaic battery serve equally well as preliminary images for the fish *qua* electrical source. But it is important to appreciate that they *are* images; Faraday certainly does not expect to find either capacitative or Voltaic structures anatomically present within the animal, and there is no question of his taking either of them as a literal explanation. For one thing, neither image can be easily fitted to the animal's ability to deliver a *series* of shocks in rapid succession [1771]. Basically, the problem is that neither image allows for an "on-off" switch.[21]

Such a failure to articulate the animal's ability to control its action would be fatal to a hypothesis, if that were Faraday's aim. But Faraday is pursuing an *image*, not a hypothesis; and therefore in his subsequent exercises with Gymnotus he will continue to call upon laboratory devices like the Leyden jar as metaphors.[22]

Earlier investigators had sought to solve the mystery of animal electricity by a more literal appeal to some sort of internal battery in the fish.[23] In 1775 Henry Cavendish had constructed a model torpedo-fish out of shoe-leather. He equipped the model with a pair of metal plates which, suitably situated, and energized by a Leyden battery, served as the "electric organs" of his imitation Leviathan.[24] But as his drawings show (Figure 8), Cavendish strove for a measure of verisimilitude in shape as well as material that Faraday evidently regarded as wholly beside the point.[25] Now there is no doubt that to be able to interpret the electric fish as containing a source analogous to a Voltaic cell or Leyden jar would be of much explanatory value;[26] and it might even seem to advance a more unified view of nature by reducing two apparently different electrical sources to

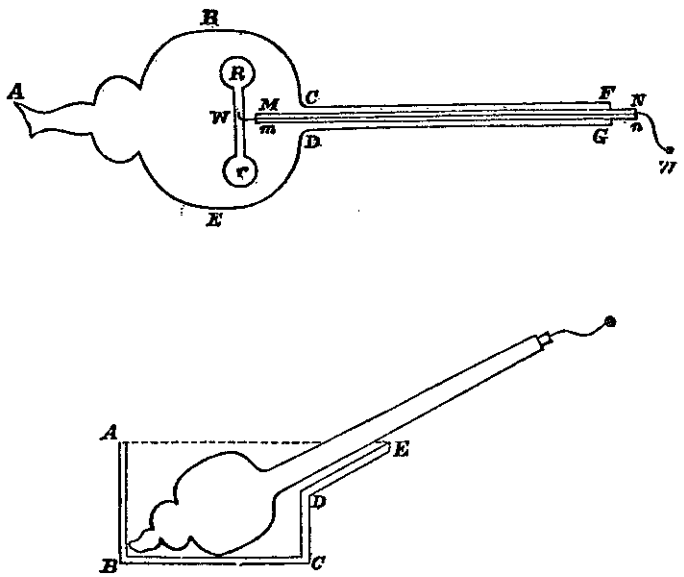


FIGURE 8: Cavendish's "torpedo"

one.[27] But Faraday's conception of the unity of natural forces is more sophisticated than any merely reductive program. His view is *relational*, rather than reductive: he will strive to explicate a nature whose unity lies in the interconvertibility of forces, rather than in anything so literal-minded as trying to find a Voltaic cell, or any other laboratory device, hidden within every electric source. The problem with images of *source as such* is that they focus on the *agent* to the detriment of the *activity*; they tend to represent an "active" source in isolation from a "passive" object. Images capable of *integrating* the agent and its own power must be sought through a different kind of experiment.

We may therefore turn to the second class of Faraday's Gymnotus exercises. The disposition experiments are carried out almost entirely either with the unaided hands or with the hand-held disk collectors. These are mapping experiments; they employ a rhetoric of *residence*. In contrast to the identity experiments, the fish's power is not here conveyed to a remote observer; rather the observers make full ingression to the scene of action and quite literally immerse themselves in the place of habitation of the power.[28]

A rhetorical contrast between the identity and the disposition exercises is thus evident: the identity of the power is established by removing it from its place; the disposition of the power is studied by ascribing it to its place. The contrast is not absolute, of course. On the whole, though, the experiments of the Fifteenth Series exhibit two different aims, two different rhetorical dimensions, and eventuate in two different kinds of image—the image of *electrical source*, which we have just discussed, and the image of *system*, to which we now turn.[29]

By "system" I think Faraday means to identify not only an interdependence of relations, but also an allied condition of *activity*: something like Aristotle's "housebuilder building,"[30] which is an agent at work and in an essential relation of *doing* with the surroundings.[31] This is an image which, if it does not actually unify the doer with the deed, at least minimizes their mutual alienation.

Faraday departs in several ways from what had been customary in work with electric fishes. He consistently treats the animal and its surroundings as *essentially* related, not isolated aspects of the survey. As one sign of this, not one of his experiments calls for removal of the fish from the water [1758]. This is in marked contrast to the traditional torpedo-fish researches, which frequently emphasized the strength and quality of shocks delivered to a handler by a fish held in the air.[32] Certainly Faraday's refusal to do likewise was in part a reflection of concern for the welfare of the animal [1754]; but it may also indicate that his view of the fish—and of "agents" in general—was already one which strove for unity in the treatment of agent and medium.[33] If so, it would follow that a study of the animal *in its accustomed medium* would better reveal the nature of its characteristic action. While this principle is not exactly the same as that of the animal ethologist, nevertheless we shall find that the fish's habitual behavior will provide rich guidance to Faraday in the interpretation of its electrical activity.

A survey with the *hands* gives the most comprehensive picture of the state of Gymnotus's body at the time of shock. A single hand placed anywhere on the fish's body feels only a feeble disturbance during a shock, and then only in the part of the hand that is actually in the water [1774]. Two hands placed at the same spot, or even laterally opposite each other, give the same weak result [1773].

But two hands placed axially, along the the body of the fish, transmit considerable shock, often "extending up the arms, and even to the breast of the experimenter." Within limits, the greater the longitudinal distance between the hands, the greater the shock [1776]. Maximum shock is received when the fish is grasped with one hand just behind the head and the other about six inches from the end of the tail [1760].[34]

Manual survey of the water reveals a similar continuously electrified condition in the surrounding medium. *One* hand placed in the water, or two hands placed together, delivers at most a sensation of tingling—Faraday calls it "the pricking shock" [1781]—and only in the part immersed. But *two* hands placed

apart transmit strong shocks up the arms if their line of separation is parallel to the fish, as 10-11 or 14-15 (see again Figure 5); if perpendicular, however, as 12-13, then only weak sensations in the immersed portions of the hands.

When several colleagues take part together, the shock is felt simultaneously at all locations, though with diminishing severity at increasing distances from the center of the fish. Thus at 10-11 the shock is strong, at 14-15 less strong, at 16-17 very feeble, as also at 18-19 [1777-81]. The occurrence of simultaneous shocks throughout the water shows, what is probably no surprise to us, that discharge occurs throughout *all* the surrounding medium. Amazingly, this was still a live question for Faraday in the *Diary*! On October 16, 1838 Faraday had written:

> Now endeavd. to ascertain whether three or four persons, each forming a separate circuit, could be shocked at once and without touching the fish; i.e., whether the discharge is in every direction through all the surrounding water or other conducting matter. (*Diary*, 5017)

If, as is not the case, shock *did* occur in only one part of the medium or along only one path at a time, we should probably be led to seek in the medium some process comparable to a *spark*, for it is characteristic of the spark that it tends to establish only one path at a time between the same points [1407ff.]. What would this amount to but invoking an image of Gymnotus as *Zeus the Thunderer*, who can throw his fiery bolts to one place, and spare a neighboring place, as he sees fit? I had myself, if you recall, casually voiced that simile at the beginning of this talk. But the differentially electrified state of the water, clearly revealed by the occurrence of simultaneous shocks, completely overthrows any thunderbolt image. It is now abundantly clear that Gymnotus does not "throw" a bolt of power to a particular place, independently of neighboring places. Whatever the fish does, it must energize the water *as a whole*.[35] My Zeus-simile, therefore, was at least as rash as Meno's Torpedo-image. But I thought it would make a sufficiently harmless beginning provided I abandoned it at an appropriate time, which I now do. Possibly Meno thought the same.

But if Zeus the thunderer is banished from the scene, another, even more potent image for the fish emerges. Gymnotus is presented as an agent that *occupies space through its peculiar action*:

> [A]ll the water and all the conducting matter around the fish through which a discharge circuit can in any way be completed, is filled at the moment with circulating electric power. [1784]

The fish is here seen as the bearer of an action that fills space. Or, since Faraday's images generally tend towards the concrete,[36] this one too develops specificity. It will become an image of *Gymnotus as Magnet*.

III. The Fish as Magnet

Results from the manual survey are rough, fragmentary, and highly dependent on the ability of individual investigators to correlate their respective impressions of the animal's shock. Faraday emphasizes that a general pattern becomes evident only after many repetitions of such observations [1782]. But something more than repetition is needed to integrate those experimental "soundings" of the fish's neighborhood into a coherent, readable pattern. Faraday relies heavily upon the pattern of *magnetic lines of force* surrounding a bar magnet to provide the schema for such an integration. With the aid of the magnetic pattern—the one he will in later years name the "sphondyloid" [3271]—Faraday has no difficulty integrating the coarse survey results into a shape that closely resembles that distinctive figure. He gives a small sketch in the *Diary* (Figure 9).[37]

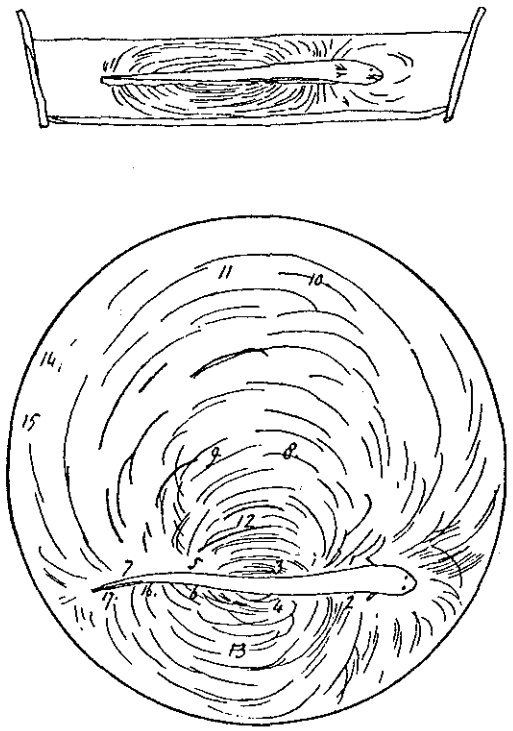


FIGURE 9: (from *Diary*)

In the *Experimental Researches* Faraday verbally notes this resemblance to the magnet [1784] and virtually invites the reader to make a similar diagram for himself; yet Faraday does not publish any such drawing—neither the sketch from the *Diary* nor any other. I think his reluctance to present this most important image visually in a published paper may arise just because the manual survey *is* so coarse [1782]. Any sketch could only be, as the sketch in the *Diary* is, an "artist's rendition"—a vehicle for the imagination, perhaps, but not a depiction of *facts*. There are in fact no *lines* visible about the fish; Faraday is appealing to the magnet, in which the lines *are* visible,[38] in order to make visual sense of the fish. Gymnotus is represented both in thought and in experimental practice by the metaphorical image of *Fish as Magnet*. Not that Faraday thinks Gymnotus exercises the same *kind* of force as the magnet does, but it imposes a comparable geometry of action upon its surrounding neighborhood. Faraday takes as an image for the fish, then, not *a picture*, but rather *the magnet itself*.

Though he is a powerful proponent of the imagination, I sense in Faraday a persistent reluctance to picture its contents.[39] Pictures, it almost seems, are for him Sacred to Fact; when imaginative constructs are to be conveyed, Faraday employs his incomparable gift for verbal narrative instead. It is that language that now takes on the burden of presenting a further imaginative integration of additional aspects of the fish. The narrative vehicle Faraday chooses here is a particularly striking one. In one brief but dramatic incident the fish begins to develop interpretive independence from its new-found image "as Magnet." Gymnotus had performed a maneuver which, by Faraday's account, is so transparent and readable, the fish might almost be said to have presented its *own* interpretive image.

The Coiling Incident

We have been considering the electric eel as maintaining a fixed, straight, bodily posture. But as the fish will sometimes *bend* itself from side to side, Faraday describes the effects that such inflections of the body would be expected to have upon the external distribution of the shock. "[T]he lines of force . . . ," he says, "vary . . . in a manner that can be anticipated theoretically" [1783]. First, he explains, a handler who grasped both head and tail of the bent fish would feel a reduced shock, because the shorter water path created by the mutual approach of head and tail permits a greater portion of the force to pass through the water; less, therefore, up the arms. But for that very reason, he continues (Figure 5),

> . . . with respect to the parts *immersed*, or to animals, as fish *in the water* between 1 and 7, they would be more powerfully, instead of less powerfully, shocked. [1783—Faraday's italics]

As we soon discover, a bending, or rather *coiling*, maneuver by the fish was not hypothetical but had actually taken place. I hardly know whether the following incident attracts more interest from an electrical, or from an ethological, point of view. Here it is; Faraday is the narrator:

> This Gymnotus can stun and kill fish which are in very various positions to its own body; but on one day when I saw it eat, its action seemed to me peculiar. A live fish about five inches in length, caught not half a minute before, was dropped into the tub. The Gymnotus instantly turned round in such manner as to form a coil inclosing the fish, the latter representing a diameter across it; a shock passed, and there in an instant was the fish struck motionless, as if by lightning, in the midst of the waters, its side floating to the light. The Gymnotus made a turn or two to look for its prey, which having found he bolted, and then went searching about for more. A second smaller fish was given him, which being hurt in the conveyance, showed but little signs of life, and this he swallowed at once, apparently without shocking it. The coiling of the Gymnotus round its prey had, in this case, every appearance of being intentional on its part, to increase the force of the shock, and the action is evidently exceedingly well suited for that purpose, being in full accordance with the well-known laws of the discharge of currents in masses of conducting matter; and though the fish may not always put this artifice in practice, it is very probable he is aware of its advantage, and may resort to it in cases of need. [1785]

For this incident, too, Faraday had made a sketch for himself in the *Diary* that does not appear in the published paper. I give it here in two forms. Figure 10b is Faraday's original sketch. In Figure 10c I have filled in the path of concentration of force, at least as implied by its deadly effect on the prey.[40] There is probably no particular efficacy in delivering the shock through lines of force that run, as they do here, *transversely* to the length of the prey; but it is true that, in this position, the prey is intersected by the maximum number of lines.[41]

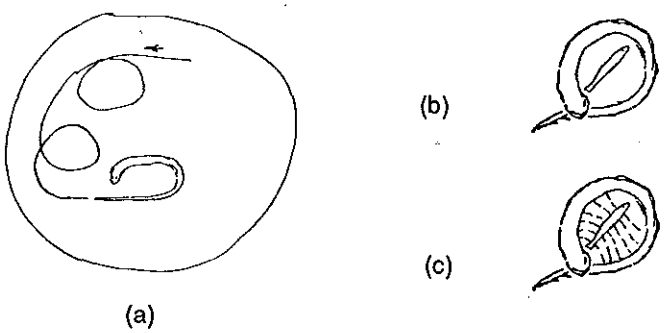


FIGURE 10: The coiling incident (from *Diary*). (a) hunting; (b) coiling; (c) showing implied pattern of the lines of force (see text)

An important stylistic feature of Faraday's account of the coiling incident is his effort to convey what is evidently for him the preeminent *readability* of the fish's behavior.[42] The theme of *concentration of the ambient power* is evidenced by the unusually sudden and intense convulsion delivered to the prey—emphatically conveyed in Faraday's phraseology: "in an instant . . . struck motionless, as if by lightning. . . ." *Electrical* readability in this episode derives also from the *volitional* readability of the coiling gesture. Since Gymnotus's shock is generally for the sake of killing his prey, a gesture that enhances his habitual hunting behavior implies also an *enhancement of lethal power*—hence a *concentration* of force onto the prey. That the animal must *bend its own body* in order to effect an apparent focusing of its external power suggests, if it does not actually imply, a definite though flexible *structure* in the external action,[43] itself a kind of body or extension of body; a body, moreover, whose substance is not matter but *force*. Once again we have occasion to reject the image of Zeus and his thunderbolt: Gymnotus's shock is to be viewed not as a separable armament, but as a functional extension of the body. It is not a weapon wielded, but a limb employed.

The twin anatomical principles of this new body are *contiguity* and *coherence*. In contrast to the specialized organs, ligaments, and conduits of a physiological body, in this new Body Electric action is *everywhere*. It is voluminous and fills space, yet is not contained either by a membrane or a vessel. It is shaped, but not by a container—rather by its own relations of equilibrium. It is, in 1838, an admittedly enthusiastic and somewhat fantastic metaphor; yet by 1852 Faraday will be speaking essentially the same language—honed, disciplined, and enriched by a series of brilliant magnetic researches—about the lines of magnetic force, that most profound, pervasive, and fertile of all his images.

The element of animal *readability* appears also in another fish story that we find only in the *Diary*. Faraday does not rehearse that anecdote in so striking a fashion, but the episode is visually almost as suggestive as the coiling incident:

> A live gudgeon was put into the water [with Gymnotus]. Perhaps he was shocked now and then, but he was not killed and eaten. Indeed he must have had shocks frequently while we were at work.
>
> At last he took up his position, very frequently, with his nose close to and opposite the nose of the Gymnotus and remained there. Now this is a place of no discharge, and probably the fish found that out; but at the same time, it is the place of feeding for the Gymnotus if he had been hungry, and it would appear that this may be a natural provision to drive his prey towards his head and mouth. (*Diary* 5052-53)

Although the coiling episode is by far the more dramatic, I would say that both vignettes point in the direction of a developing "self-interpretive" animal character. Purposiveness was paramount in the interpretation of the coiling

episode. In the Diary incident, too, an element of voluntarism plays an interpretive role. The small gudgeon appears by its choice of swimming position to indicate an electrical null point in the region about Gymnotus. This is not new information, even supposing that Faraday has rightly interpreted the smaller fish's action; for he has already gathered (through the manual survey) that the region of the mouth is "a place of no discharge." Nevertheless the smaller fish provides confirmation of that condition spontaneously, almost "at a glance," while the survey pattern had to be pieced together from individual observers' reports. Thus the incident spells another advance in representational integration.

IV. The Magnet as Fish

The course of development of Faraday's interpretive images is always a dialectical one, laced with tension and reversals. In the case of Gymnotus he began with tentative representations first as Voltaic cell, then as Bar-magnet. These images were, it seems, necessary first stages in the attempt to visualize Gymnotus's peculiar activity. Yet they were no sooner invoked than revised, and finally surpassed.

The increasing interpretive independence of animal electrical action, gained largely through the interpretive role of such volitional actions as Gymnotus's "coiling," comes to a brief but instructive culmination some fourteen years later in which the fish not only frees itself from the magnet-metaphor but actually inverts it. In June 1852, Faraday will bring forth his most profound and comprehensive interpretation of magnetic power in the great essay, "On the Physical Character of the Lines of Magnetic Force."[44] There he will argue that the lines of magnetic force are not merely representative symbols but *real structures physically present* in all the materials through which they run, structures present even in so-called "empty space." But when Faraday expounds the magnet under this view he uses, besides the Voltaic battery, also the *electric fish* as one of his explanatory images, thereby placing the fish *prior* in explanatory order to the magnet!:

> The magnet, with its surrounding sphondyloid of power, may be considered as analogous in its condition to a Voltaic battery immersed in water or any other electrolyte; or to a gymnotus or torpedo, at the moment when these creatures, at their own will, fill the surrounding fluid with lines of electric force. [3276]

In 1838 the image was *Fish as Magnet*; in 1852 the image is *Magnet as Fish*. How did the electric fish, which formerly had been interpreted *by* the magnet, come to be the interpreter *of* the magnet?

When Faraday introduces this reversal of images in the 1852 essay, his immediate topic is the external geometry of the magnet's power. But beyond that, Faraday is concerned to convey his sense that the exterior action of the magnet represents an integrally shaped, and quantitatively definite, *physical structure*. It is in this service that the electric fish is called to the scene. True, Faraday had revealed the definite *quantity* of magnetic action during the previous year through the phenomena of the Moving Wire [3109]; but it was the early studies of the Voltaic cell, and especially the Gymnotus mapping exercises of 1838, that had given the first intimations of a power that *fills up* its medium, and whose exterior action bears an *essential relation* to the interior condition of the agent.

In order to convey his vision of the *magnetic* lines of force in 1852, Faraday describes typical methods for making visible the lines of *electric force*[45] about an immersed voltaic battery [3276]. *These procedures are virtual recapitulations of the 1838 Gymnotus exercises!* For example, he describes how the lines of electric force may be probed with the galvanometer; for if its leads are dipped into the conducting fluid the instrument will show deflection when the line joining its collector ends is parallel or oblique to the lines of electric force, but shows no deflection when at right angles to those lines. This exercise rehearses the earlier Gymnotus mapping, both with hands and with the disk collectors [1775-81]. He describes also an electrochemical direction-indicator for lines of force, which recalls the role of electro-decomposition in establishing the direction of Gymnotus's discharge[46] [1763]. Each of these exercises draws on earlier imagery from the Gymnotus mapping experiments to articulate the physical occupation, by means of external action, of the medium surrounding an agent.

Another element in the 1852 reversal of images is Faraday's appreciation of *shape* and *proportion* in magnetic systems. Variations in form of the magnet, it is clear, correspond to the coiling configurations of Gymnotus. Faraday will devote five full pages[47] of the 1852 essay to a lovingly detailed exposition of the changes in external disposition of magnetic power that result when a bar magnet is bent, stretched, or squeezed out of its original proportions. All the differently shaped "atmospheres" of magnetic lines of force shown here (Figure 11)[48] are in that essay revealed as derivatives and variants of the standard "sphondyloid" shape.

Recognition of the generic topology of magnets depends heavily on the study and interpretation of magnets fabricated in a variety of shapes, and upon the study of changing conditions in the surrounding medium (such as the approach and attachment of "keepers" or other susceptible bodies).[49] From the mutual relations thus revealed between the magnet's shape and the external disposition of its force arises Faraday's magnificent vision of the essential equality and necessary connection between the "inner" and "outer" action of a magnet:

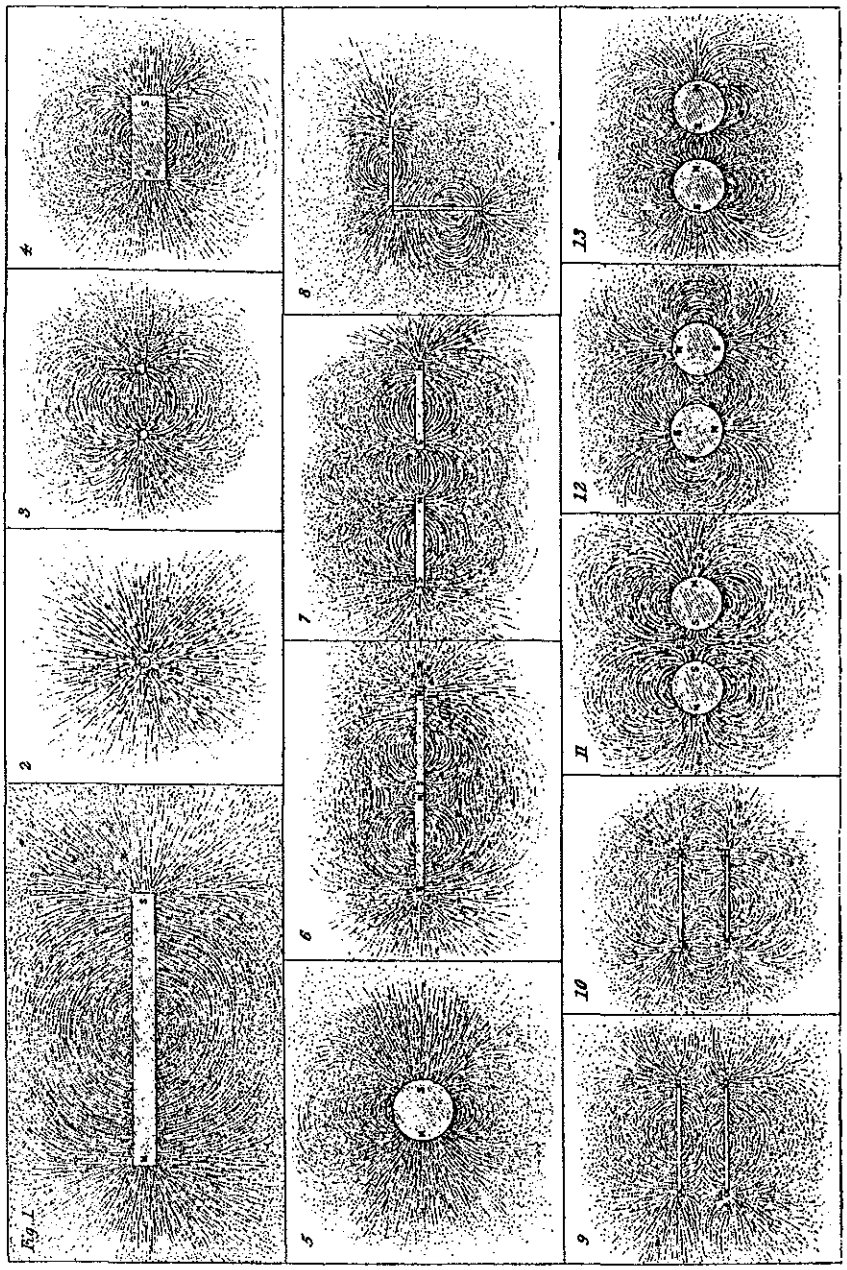


FIGURE 11: (from ERE) Magnets of various shapes.

> The physical lines of force, in passing out of the magnet into space, present a great variety of conditions as to form . . . [T]he form of the magnet as the source of the lines has much to do with the result; but I think the surrounding medium has an essential and evident influence . . . [3275]

But the Gymnotus had bent and "distorted" *itself* in the course of its habitual movements fourteen years earlier, and in its natural predatory activity it presented *itself* in multifarious electrical relations to other animals in the surrounding medium. *Gymnotus's habitual behavior thus had occasioned the direct display of much the same topology for the animal that artifice and more ingressive experimentation later make evident for the magnet.* The animal's habitual action was at the same time a heuristic, self-interpretive action. In the 1852 essay Faraday reflects:

> When, therefore, a magnet, in place of being a bar, is made into a horseshoe form, we see at once that the lines of force and the sphondyloids are greatly distorted or removed from their former regularity; that a line of maximum force from pole to pole grows up as the horseshoe form is more completely given; that the power gathers in, or accumulates about this line, just because the badly conducting medium, *i.e.* the space or air between the poles, is shortened. A bent voltaic battery in its surrounding medium, or a gymnotus curved at the moment of its peculiar action, present exactly the like results. [3282]

The efficacious relation between shape of external action and shape of the body proper can be read more surely in the magnet, thanks to Gymnotus's having already called that vision forth for itself fourteen years before.

In another area too the electric fish achieves a degree of interpretive self-evidence that will render it, for a time, prior in explanatory order to the magnet. In his 1838 report Faraday is much impressed by the relation of *fitness* that he finds between Gymnotus's electrical characteristics and the conductivity of its freshwater medium [1786-87]. As we saw when considering the identity experiments, when compared to electrostatic laboratory devices designed for use in air the quantity of the Gymnotus discharge is relatively *high* and the intensity *low*. Such animal electric apparatus is well suited to electrify fresh water, a moderately good conducting medium. The organs are useless in *air*, since they cannot develop sufficient intensity to throw air into a conductive state. If the animal is nonetheless induced to discharge in air, as Faraday will have gathered from Cavendish's researches[50] as well as from electrical theory, the electricity passes either to a restraining handler, or over the animal's own body surface. It is not clear whether Faraday knew, or suspected, that the Torpedo, whose saltwater medium is an even better conductor than fresh water, has *lower* intensity and *higher* quantity of shock than Gymnotus.[51] But he certainly seems to have grasped a consistent relation between the medium and the inherent

character of the electric power. I can best express that relation by constructing the following table:

	Plate Machine (single turn)	Gymnotus	Torpedo
Quantity of discharge	low	high	very high[52]
Intensity of discharge	high	low	very low
Conductivity of medium	poor (air)	good[53] (freshwater)	very good (saltwater)

Comparing Plate Machine, Gymnotus, and Torpedo

To Faraday, for whom such fitting relations between creatures and their habitats signify God's wisdom [1786], a connection between the physiology that generates animal electricity and the conducting ability of the medium through which it is discharged cannot be accidental; an image of the electric animal as *agent* must then be integral with the image of the animal's exterior powers. Faraday could not hope to achieve a fully integrated vision of Gymnotus's internal and external action in 1838,[54] but the animal did at least define no less than such a view as the goal. Thus the criterion of an integrated vision of agent and act, even though not yet realized, is already available and familiar when, in 1852 and earlier, Faraday finds himself reflecting on the significance of the closed lines of magnetic force and on other circumstances that incline him to consider "this outer medium as *essential* to the magnet" [3277; Faraday's italics], and that "the space or medium external to the magnet is as important to its existence as the body of the magnet itself" [3284].

The 1852 reversal of explanatory order thus stands as a confirmation, albeit a retrospective one, of some of the intimations of intelligibility and readability in animal powers that Faraday is responding to in his 1838 Gymnotus report. The promise held out by animal powers cannot claim finality, for the earlier image of Gymnotus falls far short of the later vision of the magnet in comprehensiveness and depth. The magnet especially benefits from a view of its *interior* that is made possible through the action of the Moving Wire, while no comparable interior view can be secured for the electric fish. Nevertheless Gymnotus may be credited with presenting a more accessible starting point for the ultimate vision than the magnet itself could provide. Its "promise" might best be described, therefore, as *inviting* or even instructional. Gymnotus's contribution to the elucidation of the magnet does not consist of *data*, perhaps not even of *concepts*. It provides rather a concrete object which both invites and serves as the practice ground for a kind of thinking that will ultimately be demanded by the magnet. The Gymnotus in his tub becomes a *school for interpretation*. Or if not a school in its own right, Gymnotus surely qualifies through its naturally heuristic activities as a constituent tutorial within—to use Faraday's own phrase

of 1851-52—"*nature's* school."[55] The brief image reversal in 1852 looks back over a long period of schooling for the image of the magnet.

V. "The very first that I would make"

I said earlier that in 1838 the Electric Eel appeared to Faraday to exhibit the agent–power relation in a way that held promise for solving the riddle of the "on–off" mechanism, the activation and cessation of power. That question is no less than the problem of *will* in animals, and the problem of *force*[56] in agents generally. And though I do not think Faraday can claim very much progress on the question, he does have one thing to say about it, a rather strange and fascinating thing. Whatever it means to *exercise a power*, Faraday will conclude, such exercise must represent a *conversion of force*.

Faraday was always reluctant to accept mere correlation as the content of any law of nature; rather, a *causal* content was to be sought.[57] For example, the relation between the current induced in a moving wire, and the number of lines of force cut by the wire, was for him not just a law of constant ratio but an instance of *conversion of forces*; in 1852 he would characterize that current as "the full equivalent" of the force that is exerted in the place through which the wire had moved [3270]. And in 1857 he would criticize the gravitational inverse-square law, not for inaccuracy of the ratio but for the incoherence, as he thought, of a law that merely correlates change in force with change in distance—it ought rather to couple the change in gravitational force with some *equivalent and opposite alteration*. The "changing" gravitational action would then be seen as either a *transformation* of force or a *displacement* of force from one arena to another.

These examples are from the 1850s; but even prior to the Gymnotus researches Faraday had opposed theories in several areas at least partly on the grounds of a similar incoherence. Since 1834 he had repeatedly objected to the theory of the so-called "contact force" in the Voltaic cell—and he would in January 1840 deliver almost the fatal blow to it.[58] The contact force theory held that whenever dissimilar materials came into contact their junction became the seat of an electromotive force; this in turn gave rise to an electric current, which would continue so long as the contact was maintained. The problem with contact theory was that it took the *fact* of juxtaposition for the *cause* of the power.[59] As Faraday would later characterize it,

> It is assumed by the theory that where two dissimilar metals (or rather bodies) touch, the dissimilar particles act on each other, and induce opposite states. I do not deny this . . . But the contact theory assumes that these particles, which have thus by their mutual action acquired opposite electrical states, can

> discharge these states to one another, and yet remain in the state they were first in, being *in every point* unchanged by what has previously taken place.[60]

One can almost hear Faraday's indignation as he recounts this crucial and offending credo of the contact theory—*that an agent can exercise a power, yet be itself unaltered by that exercise!* In expressing the objection Faraday does *not* anticipate a principle of conservation of energy.[61] To be sure, the contact force theory does violate conservation of energy; and the recognition, both of that fact and of the conservation principle itself, would eventually put an end to the contact force as a viable theory. But Faraday's principle here is not a quantitative but a formal one: an entity that undergoes no change itself is *incompetent* to have an *action* ascribed to it. Such an entity may be, as Faraday says, a *partial* but not a *full* cause.[62] A truly causal theory disdains mere correlation of entities; instead, it shows that cause and effect are *equivalent*;[63] and it is obvious that an *absence of change* cannot be equivalent to a *deed.*

A model for the kind of theory Faraday does recognize as causally competent—in contrast to deficient theories like that of the "contact force"—is seen in his own treatment of the Voltaic cell, which he had advanced in the Eighth Series (April 1834). Here was a comprehensive chemical theory, built on the principle that each quantity of electric action of the Voltaic cell represents the displacement and transformation of an *equivalent* chemical action within the cell [919].

What Faraday's theory dictated for the Voltaic cell will become his paradigm for all action. To "exercise a power" will come to mean, primarily, to *convert* or *transform* a power.[64] And if *to exercise a power* means the conversion or transformation of something actual, rather than the actualization of something potential, then the power so exercised is not specifically the agent's but *nature's*; and the agent is only, as it were, the locus of the conversion.[65] Such Aristotelian language is of course not Faraday's, and at the time of the Gymnotus researches such a view is as yet by no means a paradigm with him. But the vision does at least allow him to appreciate that the agent–power relation probably involves a condition of *equivalence*; and that in turn should help explain why Faraday finds the volitional activity of animals so promising: the "on–off" cycles of animal electrical action provide an opportunity for studying conversion that inorganic forces, which are always "on," do not permit. Admittedly, that opportunity is in 1838 quite an abstract one; but it is based on a very influential principle. In the realm of nature, at least, we are all inclined to think that *coming-to-be from something* is more knowable than *always-having-been.*[66]

Approaching volitional electrical action as a phenomenon of *conversion* at least points us beyond the "on–off switch" image, which as we saw earlier is just not conformable to animal physiology. Instead of a switch that "blocks the way," like a door or a drawbridge, Faraday will seek a *process* when he looks for an on–off device.[67] And, as ever with Faraday, he conceives the search as a matter

for experiment. At the very end of the Gymnotus report he proposes a series of experiments whose immediate aim will be to study the conversion relations between "nervous force" and electric force, but whose overall purpose is to make a further step towards illuminating the agent–power relation.

The electric organs' anatomy, their susceptibility to fatigue, and especially the constant direction[68] of the current they produce—all, Faraday says,

> ... induce me to believe, that it is not impossible but that, on passing electricity per force through the organ, a reaction back upon the nervous system belonging to it might take place, and that a restoration, to a greater or a smaller degree, of that which the animal expends in the act of exciting a current, might perhaps be effected. [1790]

Faraday has in mind no less an attempt than to *recharge* the fish! He readily admits that such a proposal may seem a very wild idea [1791]. It *is* wild, to be sure; but perhaps not *wildly* wild. As Faraday noted earlier, the electric organs are not vital organs like brain and heart; they are rather like fin and foot. Their office is not essential to the very being of the animal. The experiments Faraday proposes might be delicate and difficult—but in attempting them he would not, at least, be mucking about with *life*. *That* force, it seems, Faraday *does* regard as surpassing our experimental art. He says:

> that exertion [of nervous power] which is conveyed along nerves to the various organs which they excite into action, is not the direct principle of *life*; and therefore I see no natural reason why we should not be allowed in certain cases to *determine* as well as to observe its course. [1791; Faraday's italics]

I note that in the *Diary* Faraday is uncertain whether there may be an opposite current *within* the fish, to correspond with the current *externally* (*Diary*, 4956). In the published report, however, he insists that there must be *some* internal process, equivalent and opposite ("from the tail to the head") to the external current [1772].[69] Faraday's allusion to an opposite internal process seems to have fostered a myth which continues to be propagated by commentators since Maxwell. There is a widespread impression that Faraday's idea is to send a *reverse current* through the electric organ and restore the nervous energy of a fatigued animal in the same way as we recharge our automobile batteries.[70] True, a *storage battery* is recharged by passing through it a current in the reverse direction to that which the active battery provides. It is what used to be called a *secondary* device, since to be activated at all a charging current had originally to be supplied to it from some primary source, as a well pump supplies a water tank. Hence the name, "storage" battery; and for us the popular, automotively-derived metaphors of "recharging one's batteries" and "refilling one's tank" convey just about the same image of filling up an empty container.[71]

But there were no storage batteries in 1838. Faraday's Voltaic batteries were *primary* devices. "Recharging" them meant dumping out the used electrolyte and replacing it with fresh. Faraday would have been familiar with varieties of a rudimentary secondary cell, principally Ritter's.[72] But that cell had so little storage capacity it is hard to believe it could have served as a leading metaphor in the kind of restorative experiment Faraday is contemplating.[73] In any case, Faraday's own words just do not seem to describe a *reverse* current; or they are at least ambiguous enough to make the question of direction debatable.

In the Gymnotus paper there are three passages touching on the direction of Faraday's proposed fish-recharging current; there are none in the *Diary*. I have already cited the first passage, at [1790]:

> . . . on passing electricity per force through the organ, a reaction back upon the nervous system belonging to it might take place. . . .

Must "per force" necessarily mean "backwards?" I see no reason to think so. The remaining two passages are at [1792-93]:

> If a Gymnotus or Torpedo has been fatigued by frequent exertion of the electric organs, would the sending of currents of similar force to those he emits, . . . in the same direction as those he sends forth, restore him his powers and strength more rapidly than if he were left to his natural repose?
>
> Would sending currents through in the contrary direction exhaust the animal rapidly?

I do not see how this wording can be taken otherwise than to suggest that Faraday expects a current in the *usual* direction through the organ ("in the same direction as those he sends forth"), not a *reverse* current, to have a restorative effect on the animal.

If then, as I think, Faraday clearly proposes a *forward* current for rejuvenation, he cannot be viewing either Gymnotus or the restorative process under the image of a Voltaic battery. Forward current through a Voltaic cell would not only fail to recharge it but would exhaust the cell even more quickly. But an application of force in the "forward" direction is exactly how we *do* restore a degraded bar-magnet! A weakened magnet can be returned to strength by placing it

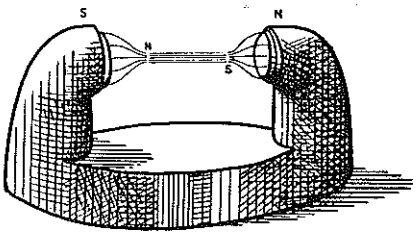


FIGURE 12: "Charging" a magnet

between the poles of a strong magnet *in its normal direction*—that is, the direction in which the magnetic lines it sends forth shall consist with the lines of force imposed by the strong magnet (Figure 12).

As I described earlier, the image of *Fish-as-Voltaic-cell* was explored in the identity experiments, while the image of *Fish-as-Magnet* had emerged through the disposition experiments on Gymnotus. Now Faraday seems to be following the *magnet*-image, abandoning the metaphorical *Voltaic cell*, as he contemplates the proposed restorative experiments. Yet if so, what reason is there to favor the one over the other? *Externally*, after all, they are identical; both the magnet and the Voltaic cell imply the same geometry of lines of force in the surrounding medium. And if, as we admitted, it is difficult to conceive how the Voltaic cell could be "turned on and off," there is no less of the same difficulty with the magnet.

But as *sources of power* the two images show a radical difference. The Voltaic cell must eventually become exhausted and fail. Even a rechargeable *secondary* cell acts by gradually consuming a fixed quantity of chemical action. Is that not the lesson of Faraday's celebrated law of electro-chemical proportion?[74] The chemical battery is *mortal*. A magnet, by contrast, does not languish in any comparable sense. Magnets can be damaged, destroyed—as Aristotle would say, through *bia*, violence. But how different this is from the Voltaic cell, whose *activity* and *mortality* are realized together! In the magnet we find no reservoir to be exhausted, no life's course to be run.[75]

Might Faraday have seen in the *magnet* a disposition of power more nearly approaching to an image of *life*? Might the proposed direction-protocol in the restoration experiments reflect a conviction, or even a suspicion, that *living power* cannot be imaged according to a logic of finitude and rationing? Still, if Faraday ever did entertain such leanings, there are ample indications that he also resisted them, especially as a younger man.[76] Nor was the magnet's mode of exerting its power a problem Faraday would ever sufficiently clarify to his own satisfaction.[77] The whole picture of Faraday's view of *living powers* remains far from clear; so I must be content to offer the suggestion as my own "wild idea" in homage to Faraday's earlier one [1791]. Yet there is another indication that disposes me to take it seriously. Faraday's closing words in the Fifteenth Series characterize his proposed restorative experiments this way:

> Such are some of the experiments which the conformation and relation of the electric organs of these fishes suggest, as being rational in their performance, and promising in anticipation. Others may not think of them as I do; but I can only say for myself, that were the means in my power, they are the very first that I would make. [1795]

The very first experiments that he would make—this from one of the most celebrated experimentalists of the day! That is extraordinarily urgent language,

it seems to me. The urgency may, for all I know, arise for Faraday from strictly mundane considerations and may not reflect a particularly intense interest in *living powers* at all. Nevertheless, a topic more deserving of Faraday's pressing attention than *mortality in nature*, I cannot imagine.

* * *

APPENDIX: QUANTITY OF GYMNOTUS'S DISCHARGE

The Leyden battery to which Faraday compares the fish's discharge comprises 15 jars, 3500 square inches of glass, coated on both sides, "charged to the highest degree" [1700, 291]. Forty turns of Faraday's large plate electrical machine will "fully charge" 8 of the jars [363]. Therefore it should take about 75 turns to charge the 15 jars fully.

As indicated by a ballistic galvanometer deflection of 5.5 divisions (22°), a voltaic arrangement of Zn-Pt wires held in acid for 8 beats of his watch (a little over 3 seconds) produces the same quantity of electricity as 30 turns of the electrical machine [363, 364, 370].

But he finds it would take some 800,000 times this quantity to decompose 1 grain of water [861]. Since, in modern units, 96,500 coulombs will decompose 9 grams of water, therefore 695 coulombs will decompose .0648 gram (= 1 grain) of water. So 30 turns of the plate machine produce 695/800,000 or .00086 coulomb. Hence the 75 turns that fully charge Faraday's Leyden battery represent about .00218 coulomb.

WORKS CITED

Agassi, Joseph (1971): *Faraday as a Natural Philosopher*, Chicago and London.

Bence Jones, H. (1870): *The Life and Letters of Faraday*, 2 vols., London and Philadelphia. Cited as L&L.

Cantor, Geoffrey N. (1985): "Reading the Book of Nature," in Gooding and James (1985), 69-81.

Cavendish, Hon. Henry (1776): "An Account of some Attempts to Imitate the Effects of the Torpedo by Electricity," *Phil. Trans.*, 66 (1776), 196-225, and Maxwell (1879), 194-215. Reference is made to the Maxwell edition.

Davy, Sir Humphrey (1828): "An account of some experiments on the Torpedo," *Phil. Trans.*, (1829), 15-18.

Davy, John (1832): "An Account of some Experiments and Observations on the Torpedo," *Phil. Trans.*, (1832), pp.259-78.

_____ (1834): "Observations on the Torpedo, with an account of some additional Experiments on its Electricity," *Phil. Trans.*, (1834), pp. 531-50.

Faraday, Michael (1839-55): *Experimental Researches in Electricity*, 3 vols., London. Cited as ERE followed by paragraph number (in square brackets) or volume and page number.

_____ (1852a): "On the Physical Character of the Lines of Magnetic Force," *Phil. Mag.*, June, 1852, and ERE III, 407-37.

_____ (1852b): "On the Physical Lines of Magnetic Force," *Proc. Roy. Inst.*, June 11, 1852 and ERE III, 438-43.

_____ (1854): "On Mental Education," lecture given at the Royal Institution on 6 May 1854; in *Lectures on Education*, Parker and Son, 1855 and ERCP, 463-91. Reference is made to the ERCP reprint.

_____ (1857): "On the Conservation of Force," *Proc. Roy. Inst.*, February 27, 1857, 352 and ERCP, 443-63. Reference is made to the ERCP reprint.

_____ (1858): "On Wheatstone's Electric Telegraph's relation to Science (being an argument in favour of the full recognition of Science as a branch of Education)," *Proceedings of the Royal Institution*, 2 (1854-58): 555.

_____ (1859): *Experimental Researches in Chemistry and Physics*, London. Cited as ERCP followed by page number.

_____ (1932-36): Faraday's Diary, being the various philosophical notes..., 7 volumes and index, London. Cited as *Diary* followed by paragraph number.

Fisher, Howard (1979): "The Great Electrical Philosopher," *The College*, 31 (July 1979), 1-16.

Gill, T. H. (1864): "Second Contribution to the Selachology of California," Proceedings. Academy of Natural Sciences of Philadelphia, 1864 (May), 147-51.

Gooding, David (1980): "Metaphysics vs. Measurement: the Conversion and Conservation of Force in Faraday's Physics," *Annals of Science*, 37 (1980), 1-29.

_____ (1982): "Empiricism in Practice: Teleology, Economy, and Observation in Faraday's Physics," *Isis*, 73 (1982), 266, 46-67.

_____ (1985): "In Nature's School," in Gooding and James (1985), 105-35.

Gooding, David and James, Frank A.J.L., eds., (1985): *Faraday Rediscovered*, Macmillan, 1985 and American Institute of Physics, 1989.

Gray, Sir James (1968): *Animal Locomotion*, Norton.

Grundfest, Harry (1960): "Electric Fishes," *Scientific American* 203 (October 1960), 115-24.

Grzimek, B., ed. (1974): *Grzimek's Animal Life Encyclopedia*, New York, Van Nostrand.

Heilbron, J. L. (1982): *Elements of Early Modern Physics*, Berkeley.

Levere, T. H. (1971): *Affinity and Matter: Elements of Chemical Philosophy 1800-1865*, Oxford.

Maxwell, James Clerk, ed. (1879): *The Electrical Researches of the Honourable Henry Cavendish*, Cambridge, 1879 and London, 1967.

Simpson, Thomas K. (1970): "Faraday's Thought on Electromagnetism," *The College*, 22 (July 1970), 6-16.

Williams, L. Pearce (1965): *Michael Faraday, A Biography*, London.

Notes:

1. Meno 80a.
2. *Meno* 80c. The play on *hē narkē* and *narkan* corresponds to "torpedo" and "torpid," which are similarly related. Compare Faraday's literal use of the verb "astonish" in connection with the electric eel's shock in ERE [1788]: "he [the electric eel] has quickly shown his power and his willingness to astonish the experimenter."
3. Self-susceptibility is a mark of natural activity in Aristotle's comparable image for nature in *Physics* II.8 (199b30): "a doctor doctoring himself."
4. Gymnotus, from *gymno-* + *notos*: "naked back"—it has no dorsal or ventral fins. The term "electric eel" is a misnomer, as the animal is not, taxonomically, an eel (Anguilla). What is more, the animal formerly called *Gymnotus* has since been renamed Electrophorus in accordance with a proposal by T. H. Gill (1864). Although *G. electricus* was still being promulgated in the 1904 edition of *The Cambridge Natural History*, vol. 7 (copyright 1895), the term Gymnotus no longer refers to Faraday's animal, but refers to a weakly-electric member of the gymnotoidae (Grzimek 1974). I will follow Faraday's taxonomy. (My thanks to Dr. Stanley H. Weitzman of the Smithsonian Institution for the reference to Gill.)
5. Phil. Trans., November 1838; ERE, Fifteenth Series. Here, as elsewhere, Faraday uses the word "force" in a sense much broader than the strictly mechanical one. In an 1858 addendum to his "On the Conservation of Force," he will explain: "What I mean by the word 'force,' is the *cause* of a physical action; the source or sources of all possible changes amongst the particles or materials of the universe" (ERCP, p. 460; Faraday's italics). I shall follow that same usage in this talk.
6. All references in square brackets are to paragraph numbers in Faraday (1839-55), cited as ERE.
7. ERE, Third Series, January, 1833. But Faraday's connection with animal electricity in this project was limited to reviewing the researches of others. The *Diary* also records exercises with frogs and fish in 1831 and 1832; but in these the animal is the detector, not the source, of electric action.
8. Davy (1828). An account is given in Williams (1965), p. 37.
9. A comparison with Don Quixote is not idle. Not only do the two *books* make comparable demands on the reader, but Faraday and the Quixote character can be compared in interesting ways. If one views Don Quixote as having a *quest*—say, to right the world's wrongs—Faraday also has an aim: to bring to light the powers of nature (Simpson 1970). But I think it would be truer to say that Quixote has chosen a *life* rather than a quest; and Faraday, too, I think of as a man who has chosen a certain life's activity because it is a worthy life, and not primarily for the sake of solving a certain problem or achieving a set goal.
10. In a *Diary* note of December 19, 1833, Faraday notes that the Torpedo is insensitive to its *own* electricity, though susceptible to current from a Voltaic

battery. But he thinks he could devise an arrangement by which the Torpedo's shock would be directed back to itself! (*Diary*, 1200).

11. The fish is 40 inches long, the tub is 46 inches in diameter and is filled with water to a depth of 3.5 inches—the minimum depth that will permit the Gymnotus to keep itself entirely submerged [1755, 1773].
12. For a character who can take delight *only* in things exotic, consider the vapid triumphalism of Hamlet as he exults in the things undreamt of in Horatio's philosophy. Man delights not him, nor woman neither; and the natural world is but a depressing, unweeded garden. Yet how high-spirited and full of banter he is in the presence of the Ghost! (I.v, II.ii, I.ii)
13. Compare Faraday (1858): "The beauty of electricity, or of any other force, is not that the power is mysterious and unexpected, . . . but that it is under *law*, and that the taught intellect can even now govern it largely. The human mind is placed above, not beneath it . . ." Cited in Williams (1965), p. 341.
14. Seeing is something that has to be learned. Compare Faraday (1854): "the mind has to be instructed with regard to the senses and their intimations through every step of life" (p. 466); and: "we frequently have to ask what is the fact?—often fail in distinguishing it,—often fail in the very statement of it,—and mostly overpass or come short of its true recognition" (p. 469).
15. Faraday's emphasis on the *visual* as the paradigm for understanding is well known. But an unusually explicit identification of experiment as *corrective* to vision is revealed in his prescription that "all cases [of the subject under investigation] should pass in review, and be touched, if needful, by the Ithuriel spear of experiment." Faraday (1854). It is in Milton's *Paradise Lost* (IV.810-19) that the disguised Satan is revealed in his true shape by a touch of the angel Ithuriel's spear.
16. "Tegument" = integument: covering, sheath, hide, husk. Even Dr. John Davy, who emphasized histological dissimilarities between electric organs and muscular organs, thought it likely that the electric organs were functionally integrated with contiguous muscle sheathes, generating electricity when compressed by the latter. Davy (1832), esp. pp. 269 and 276.
17. We seldom think to take this perspective, though it expresses the soundest physics. Gray (1968) does so explicitly in his engaging statement of Newton's Laws of Motion in biological terms. For example, the First Law: "If an animal is to move its body by its own unaided efforts, it must elicit a force from its external environment . . ."
18. For example, the ingenious method used to obtain the spark [1766]—a forerunner of the automotive "vibrator" spark coil. (Subsequently Faraday obtained the spark directly.)
19. Faraday's need to make simultaneous multiple observations dictated his recruitment of additional participants. The *Diary*'s lists of colleagues present on various days include such names as Cowper, Daniell, Gassiot, Wheatstone, and Young.
20. It is the charge delivered by 75 turns of Faraday's large plate electric machine, or about 2 millicoulombs (see Appendix). Less than half this amount—that is, the charge of only 30 turns—is the quantity Faraday refers to in the Seventh Series as "sufficient if passed at once through the head of

a rat or cat to have killed it" [860]; and again, more "than any man would willingly allow to pass through his body at once" [873].

21. In the *Diary* (4968) Faraday emphasizes the "important fact" presented by this *series* pattern. The Leyden jar image has an additional difficulty, for the discharge time of a Leyden jar into a good conductor is extremely short; having discharged once it could not reasonably be expected to discharge again without some restorative process. Whatever that process might be, it is utterly unexplained by the metaphor of the Leyden jar itself. The Voltaic battery *is* capable of delivering great quantities of charge over long periods, but for it, too, there is still no obvious "on–off switch." Fifty years later Maxwell, who delighted in taking such metaphors literally (never forgetting, however, that they *were* metaphors), would suggest "a Voltaic battery, the metals of which are lifted out of the cells containing the electrolyte, but are ready to be dipped into them." Maxwell (1879), p. 436. Note the element of bodily motion ("ready to be *dipped*") in Maxwell's image.
22. Compare Agassi (1971), p. 307: "There is little doubt . . . that in some sense Faraday used laboratory tools such as condensers and magnets as symbols in his thinking."
23. In a letter to Benjamin Franklin, also communicated to the Royal Society on July 1, 1773, John Walsh had apostrophized the Torpedo as an animate Leyden jar ("animate phial"). Another comparison, this one non-electrical, was to a rack of musketry! Quoted in Maxwell (1879), p. xxxv.
24. Cavendish (1776). To call Cavendish's procedure "literal" is not to deprecate it. For him such literal mimicry had the wholly appropriate purpose of advancing as a *hypothesis* that the Torpedo's power was electrical—an idea then widely viewed as impossible. See Heilbron (1982), p. 233 and Maxwell (1879), p. xxxvii. Maxwell also implies that the fastidious style of these demonstrations reflected more the limitations of some among the audience than the quality of Cavendish's own thought.
25. In order for Cavendish to argue from *same effect* (quality and magnitude of shock) to *same cause* (electricity), he had to insure that all other factors, including the form and material of the replicated body, were as invariant as possible. But Faraday, having already established the identity of animal electricity and Voltaic electricity, could regard most of Cavendish's imitative details as inessential.
26. Faraday himself had been quick to notice indications of a Voltaic analogy in 1833; in the Third Series he had suggested that the repeated discharges of Torpedo "resemble" those of a Voltaic arrangement rather than a Leyden apparatus. But this was no attempt to decide between competing hypotheses; he insisted that "in reality, there is no *philosophical* difference" between the two cases [359].
27. Note that this would be a "reduction" not of *electricities*—animal and Voltaic electricity had already been shown to be identical in 1833—but rather of the animal and Voltaic *sources*.
28. David Gooding (1985), pp. 122-23, points out that "Faraday's method of active exploration made variations of a property with *position* all important . . . Like an explorer of geographical territory, Faraday occupied the very

space filled by the forces he was investigating." Gooding cites the famous Cage of 1836 as the culminating instance of Faraday's occupying that space "with his person as well as his instruments." The Gymnotus survey is a somewhat less spectacular, but equally clear, instance.

29. Although the term "system" may now strike us as a bit anachronistic, Faraday seemed to like it and would eventually give it star billing in the interpretation of the magnet, as in the opening sentence of Faraday (1852b): "That beautiful system of power . . ."
30. *Physics* II.3, *Metaphysics* IX.3.
31. Cf. Aristotle: "Causes which are actually at work and particular exist and cease to exist simultaneously with their effect, e.g. . . . that housebuilding man with that being-built house" (*Physics* 195b18, tr. Hardie and Gaye).
32. See, for example, John Walsh to Benjamin Franklin, July 1, 1773, excerpted in Maxwell (1879), p. xxxv; Cavendish (1776); John Davy (1832), p. 262 and (1834), pp. 545-46.
33. Compare Gooding (1980), p. 9, who holds that by 1836 Faraday's assumption of *an essential relation between force and a reacting environment* had attained "the status of a principle." Admittedly, another factor might also have helped to shape Faraday's experimental policy with Gymnotus: while the Torpedo produces only about 35 volts, a large Gymnotus develops up to 650 volts at 1 ampere. To an animal handler out of water, such capability would present questions of personal safety!
34. Cf. *Diary* 4939.
35. A trace of the *Diary*'s doubt on this point perhaps survives in ERE where Faraday considers the possibility that the animal might "direct" its power by activating its electric organs separately [1782]. But such selective activation of organs, like the "coiling" behavior to be discussed below, could at most only introduce a change in the pattern of the whole, not an electrification of one region independently of neighboring regions.
36. Gooding (1985), p. 133, n. 4.
37. *Diary* 5041 (October 22, 1838).
38. The magnet's lines are "visible" either through the use of iron filings [114n.] or by tracing the course of a small magnetic needle. They are not, of course, visible in the sense of being "luminous" (see Faraday's footnote to the title of the Nineteenth Series), nor as in the Kerr effect, which Faraday had repeatedly and unsuccessfully sought to achieve.
39. The curved lines of force in electrostatic induction are not depicted (see Plate VII in the Eleventh Series), because they can only be *inferred*—though the inference is certain. For a similar reason Faraday will not draw lines of force *within the body of a magnet*, even though the Moving Wire detects both their existence and their quantity there (see the figures to [3093-3118] in the Twenty-eighth Series). In connection with one topic only, that of *magnetic conduction*, does Faraday relax this self-restraint. The figures to [2807-21, 2831, 2875] explicitly depict the expanded or compressed course of lines within dia- and paramagnetic bodies. Perhaps Faraday means to offer some justification for taking this liberty when he cites *the motions of*

the bodies themselves as "proof" of the concentration or dispersal of the lines [2844].

40. The visualization also relies on Faraday's having identified the neck and the region six inches from the tail as the places of concentration of force *at the body* (see p. 12, above). While the superficial appearance of the body is a closed ring, from the point of view of its *action* the fish's shape is none other than that of a horseshoe-magnet!
41. Maxwell notes a report which would suggest that, if anything, the transverse position is *least* deadly to the victim: "Du Bois Reymond . . . found that Malapterurus was very slightly affected by induction currents passing through the water of his tub, though they were strong enough to stun and even kill other fishes. When the induction currents were made very strong, the fish swam about till he had placed his body transverse to the lines of discharge, but did not appear to be much annoyed by them." Maxwell (1879), p. 437.
42. We may take note of some other evocative elements in Faraday's language. The fish is highly characterized, mainly through Faraday's vocabulary of gestures: "instantly turned round . . . ," "made a turn or two to look for its prey . . .," "went searching about for more." There is no stalking, no cat-and-mouse game. Gymnotus is efficient, insouciant. There is a strong Biblical flavor to the language at several points, particularly the phrase, "in the midst of the waters." The *pace* of narrative halts suddenly to contemplate the struck fish, "its side floating to the light"—a respite which *Gymnotus* does not participate in!
43. Earlier in the same year (1838), Faraday had discussed a comparable instance of *constancy in structure coupled with variability of form* (Gooding 1985) in the disposition of the "striations" that made up the electrical brush [1449].
44. *Phil. Mag.*, June 1852; ERE III, pp. 407-37 [3243-99]; or Faraday (1852a).
45. We would say "current flow"; but Faraday employs a terminology that does not carry the, to him, dubious *electric-fluid* connotations of "flow."
46. But the 1852 decomposition method is far more elegant, being manifest on a small plate or ball that is introduced into the medium itself. It is thus a true "disposition" exercise, in the sense of the Gymnotus experiments. Note: Faraday does not give his usual paragraph citation when discussing these exercises; are they recorded in the *Diary*?
47. [3282-90]; from the middle of ERE III, p. 428 to the middle of p. 433!
48. ERE, Vol. III, Plate III.
49. More fundamentally, of course, it depends on the quantitative measurements made possible by the Moving Wire; see Fisher (1979).
50. Cavendish (1776), p. 205.
51. A suspicion at least as to *intensity* could have been suggested by his having obtained the *spark*, though with great difficulty, from the Gymnotus's discharge; whereas there were no confirmed reports of spark from the Torpedo; cf. J. Davy (1832), pp. 261-62 and (1834), pp. 545-46.
52. If, indeed, Faraday suspected Torpedo's ranking with respect to quantity.

53. Though today we seldom think of fresh water as a "good" conductor, that was Faraday's epithet [1786].
54. But see ahead, on the proposed "restorative" experiments.
55. Gooding (1985) gives the origin of Faraday's phrase as well as a beautiful analysis that respectfully but effectively penetrates that naive metaphor. Nevertheless, I think there is much to be gained from applying the image, in its own terms, to Faraday's work; the present study attempts to carry out that approach.
56. See above, note 5.
57. Cantor (1985), p. 74, n. 27; p. 77.
58. Rejection of the "contact force," at least as a *sufficient* theory of the Voltaic cell, is expressed in ERE Seventh Series [872] and throughout the Eighth Series. His 1840 criticism in ERE Sixteenth and Seventeenth Series was "almost" fatal, since probably no argument against the contact force hypothesis could be fatal without a theorem of conservation of energy.
59. As though we were to identify the electric lamp's *switch* as the cause of the *light*—ignoring the electromotive source of power!
60. ERE Seventeenth Series, January 1840 [2066-67]. Faraday's italics.
61. Faraday (1857). Williams's discussion of this unconventional paper makes it clear that Faraday's principle is *not* that of conservation of energy, and *is not intended to be*; Williams (1965), p. 457.
62. That is, roughly, it may be a *necessary* but not a *sufficient* condition. Faraday (1857), ERCP p. 445.
63. Faraday (1857), ERCP pp. 445, 447, and related passages on pp. 449-50, 452.
64. See the opening paragraphs of Faraday (1857).
65. In 1852 Faraday will bring the *magnet* under this view; the iron material will become not the seat of a specifically magnetic force but only, as we will discuss later, "the habitation of lines of force" [3295]. See note 77, below.
66. As an indication of how thoroughly Faraday shared that inclination, note that as late as 1857 he will even invoke a fictive coming-to-be of the gravitational force, because such a fiction makes Newtonian gravity theory *thinkable—and its causal inadequacies evident! Faraday (1857); ERCP*, p. 448. His argument is a *reductio*: If the gravitating power of a body changes with *distance*, then it also changes with the creation or annihilation of another body; nor can the latter "change" be distinguished from the former. But the latter change is creation *de novo*, which (excepting divine creation) is absurd. The objection, as Faraday continually stresses, is not to the *descriptive* accuracy of the gravitational inverse-square law, but to its pitiful lack of *causal* content.
67. Maxwell will one day show that even a "switch" is to be understood as a process; his *displacement current* permits equation of the decaying current as the switch opens to the electric field buildup across its terminals. Yet Faraday has already in the Twelfth Series broached a related conception (January, 1838—a few months prior to the Gymnotus report): "The water is

. . . a bad conductor and a bad insulator; *but what it does insulate is by virtue of inductive action...*" [1345; my italics].

68. In the *Diary* by far the single most-repeated exercise on Gymnotus is that of establishing the direction of its current, which is externally from (positive) head to (negative) tail (*Diary* 4949-61, 4969-76, 5013-16, 5031, 5035-36).
69. Interestingly, he appears to allow an "equivalent" process that is not necessarily simultaneous with the discharge. But if the equivalent process is *not* simultaneous, some mediating state of tension would have to intervene—a "zoötonic state"?
70. See, for example, Maxwell (1879), p. 436; Williams (1965), p. 364. It seems that these expositors have been influenced by an image of battery recharging, and have supposed Faraday to have been thinking in the same image.
71. Note that these metaphors also pertain to the emotions, or "nervous energy."
72. See ERE First Series [77], in which Faraday refers to articles by Mariani and others in *Annales de Chimie*, XXXVIII. Faraday's own investigation into the peculiar behavior of "interposed plates" in electrochemical troughs disclosed them to be a kind of secondary cell. See ERE Sixth Series [660] and Eighth Series [1003-33], and especially [1035, 1040-41].
73. Neither is the Leyden jar a suitable image, since in being charged it literally stores *electricity*, which is not to be supposed for a fish. The "storage cell" converts electricity to *chemical force* during recharge, which is at least more conformable to an animal image.
74. ERE Seventh Series.
75. Pearce Williams thinks this is a *problem* for Faraday's magnetic theory: Faraday would eventually abandon a proffered analogy between magnet and Voltaic pile for lack of any identifiable magnetic energy source to correspond to the chemical power expended in a Voltaic cell; Williams (1965), pp. 452-53. But as touching the proposed experiments on Gymnotus's nervous force I can see the contrast between Voltaic cell and magnet as a source of as much inspiration as frustration.
76. In an early lecture (to the City Philosophical Society?), the young Faraday had characterized life as merely a prolonged chemical reaction. However, contrast the far more sympathetic passage in *On Some Points of Magnetic Philosophy* (1854): "[A]ll natural forces tend to produce a state of rest, except in cases where vital or organic powers are concerned; . . . as in *life* the actions are for ever progressive, and have respect to a future rather than a present state . . . so all *inorganic* exertions of force tend to bring about a stable and permanent condition, having as the result a state of rest, *i.e.*, a static condition of the powers" [3318].
77. The *relation between an agent and its power* assumes, for the magnet, the form of this question: *What is the relation between the magnet and its own lines of force?* But the nature of that connection will remain a continuing mystery to Faraday. He does coin a remarkable metaphor for it; in 1852 he describes magnets as "the habitations of bundles of lines of force" [3295], but this colorful language does not take us very far. It particularly fails to distinguish the relation that lines of force bear to their "habitation" from the

relation they may have with any chance conductor. Why is it that, when the "habitation" moves, its lines of force move with it, following the iron or other material to its new location; but when materials, not magnetized in themselves, are waved about in the vicinity of a magnet, the lines of force suffer only temporary deflections while the invading material passes among them and spring back to their former positions when it departs? In fact Faraday introduces the "habitation" metaphor not intending to elucidate the agent–power relation, but simply to bring home that we can, from the mutual motions of *magnets*, frequently infer the motions of their corresponding *lines*. He had himself drawn such inferences in his interpretation of attraction and repulsion between para- and diamagnetic materials in a common magnetic field [2844]; see note 39, above.

The Education of Telemachos

Amy Apfel Kass

What is it that moves us in a great book? According to Samuel Butler

> it is not the outward and visible signs of what we read, see, or hear, in any work, that bring us to its feet in prostration of gratitude and affection; what really stirs us is the communion with the still living mind of the man or woman to whom we owe it, and the conviction that that mind is as we would have our own to be. All else is mere clothes and grammar.[1]

Butler was reflecting on Homer's *Odyssey* and for this book his remarks seem especially apt. True, the *Odyssey* invites us to participate in a world alien to our sensibilities, a world in which heroic he-men perform seemingly impossible feats, a world populated by strange gods and goddesses, demons and enchantresses, who come and go as they please, victimizing or protecting people for no apparent reason. But all this is only "clothes and grammar." The *Odyssey* is essentially a story about Odysseus, the much-turned, much-traveled, man of many ways, and about his effort to achieve home. Thus, it speaks to pressing and persistent human concerns about the meaning of home and what it takes to make a home a home. Through Odysseus's many struggles and his own bittersweet homecoming, Homer shines his light on what each of us must necessarily and continually undergo as we try to gain a home for ourselves in an inhospitable world. Indeed, upon reading and re-reading Homer, one comes to feel like the rebellious child who in his infinite wisdom and confidence strikes out on his own only to discover just how smart his parents have become.

This brings me to the aspect of Homer's broad subject that I want to take up with you this evening. The question is this: What does it take for children to accept their parents? More specifically, How does Homer show us what it took for Telemachos to accept Odysseus? While these questions may seem, at first glance, peripheral to Homer's main concern in the *Odyssey*, I offer this preliminary reflection as a defense: If Telemachos—Odysseus's only son and only heir—does not fully and knowingly accept his father, could we say that

---

Amy Kass is Senior Lecturer in the Humanities at the University of Chicago. This lecture was delivered at St. John's College, Annapolis, in November, 1991, on Parents' Weekend.

Odysseus's homecoming is complete? My thesis can be simply put: Facing Telemachos and gaining his acceptance is Odysseus's most decisive and important battle; how this battle is won is the story-behind-the-story of the homecoming of Odysseus. To support this thesis, we shall take a close look at selected thoughts, deeds, and utterances in the *Odyssey*, first, at its start—in Ogygia, on Olympus, and in Ithaka—then, later, during the various stages of Telemachos's own odyssey, Telemachos's education. My argument will be long, for which I apologize in advance, but in order to understand and appreciate the education of Telemachos and his ultimate reconciliation with his father, one must first look at the beginning to establish Telemachos's initial disposition and attitude.

I. Obstacles to Homecoming: Setting the Plan

The wish so close to the heart of every hero in the *Iliad*—to be forever ageless and immortal—is the opportunity offered to Odysseus as the *Odyssey* begins. The narrative proper opens as follows:

> Then all the others, as many as fled sheer destruction,
> were at home now, having escaped the sea and the fighting.
> This one alone, longing for his wife and his homecoming,
> was detained by the queenly nymph Kalypso, bright among goddesses,
> . . . desiring that he should be her husband. (I.11-15)
> [E]ver with soft and flattering words she works to
> charm him to forget Ithaka; and yet Odysseus,
> straining to get sight of the very smoke uprising
> from his own country, longs to die. . . (I.56-59)[2]

What an odd situation. A generation has passed since Odysseus last touched Ithaka, ten years since the sack of Troy, seven years since he arrived on Kalypso's island. "[A]ll the others, as many as fled sheer destruction," were home at last, but, as we know, there weren't very many who came safely back. Odysseus, too, knows this well—he alone of all his company had survived. Odysseus also knows that the dangers he faced from the Cyclopes, from the Laistrygonians, and from Scylla and Charybdis, to recall but a few, were mere appetizers to the feast of troubles he could expect from the suitors back home in Ithaka. Further, he knows that even were he to slaughter the suitors, his triumph would be fleeting, for afterwards another long journey awaits him. Teiresias had spared him no details when they spoke together in Hades.

Few of us, looking out over such a past or into such a future, would long to leave the luxuriant island of Kalypso, that perfectly ordered paradise of beauty and comfort. Few of us would long for rocky Ithaka, or for growing sons, or for aging wives, or for ailing fathers, or for crushed kingdoms, if an ageless and

beautiful goddess beckoned. Few of us would give up immortality for a few more months of worldly power. Few of us would ever long to die. Not so Odysseus. Why not? What does he want? What is the vision that animates him?

A legend, though not recounted in either the *Odyssey* or the *Iliad*, proves helpful:

> When. . . the Greeks began to organize themselves for their Trojan expedition, they drafted all the chieftains to join them with their men, ships, and supplies. But Odysseus, ruler of Ithaka, in the prime of young adulthood, with a young wife and a baby son, was anything but enthusiastic about going to war. When the delegates of the Greek states arrived to assess the situation and to compel Odysseus's compliance, he malingered, faking insanity. The emissaries—Agamemnon, Menelaos, and Palamedes—found him ploughing with an ox and an ass yoked together, and flinging salt over his shoulders into the furrows; on his head was a silly, conically shaped hat, as usually worn by Orientals. He pretended not to know his visitors and gave every sign that he had taken leave of his senses. But Palamedes suspected him of trickery. He seized Telemachus, Odysseus's infant son, and flung him in front of Odysseus's advancing plough. Odysseus immediately made a semi-circle with his plough to avoid injuring his son—a move that demonstrated his mental health and made him confess that he had only feigned madness in order to escape going to Troy.[3]

Odysseus, here depicted as the first draft evader, seems to have cared deeply for his son. He went off to war, but not willingly. At Troy, as we see in the *Iliad*, he was indispensable to the Achaians and, as we hear in the *Odyssey*, "he sacked Troy's sacred citadel." He was counted among the heroes, but he shared neither their virtue nor their vision. Ever mindful of where he was, and of who he was, Odysseus never lost his head. And he never forgot his home, not even on the battlefield. To his warrior colleagues, he was known as the son of the hero Laertes, but to himself, he was always the "father of Telemachos," the young son whose name can mean "far away from battle," whom he had left behind. The vision that animated him long ago, and seems still to animate him as he sits on Kalypso's island, was less the solo fight in war that would win for himself and his father great glory and immortality, and more the shoulder-to-shoulder fight, the Laertes–Odysseus–Telemachos fight, we witness at the very end of the *Odyssey*, the fight which secures his home, now and for the future, against outside disturbers.

Odysseus, like the heroes, is ever mindful of mortality, but unlike them, is willing to affirm it. Odysseus's legendary plough is a fitting symbol of his awareness and acceptance of the "unrolling destiny" of human beings which sees "the next generation as an extension of one's self."[4] It is this awareness that makes possible, but also problematic, his homecoming. Even though the gods are willing to work out his homecoming, it will be no easy task, not mainly because of Poseidon, but for another, more delicate reason.

Having informed us that the year has come round for the homecoming of Odysseus, and that his enemy Poseidon is temporarily "out of sight" and "out of hearing," our narrator moves abruptly to the council of the gods on Olympus where Zeus is holding forth. We anticipate reflections about Odysseus. Instead, Zeus, we are told, was "thinking in his heart" not of Odysseus, but of "blameless Aigisthos." And, remembering him, he speaks forth as follows:

> "Oh for shame, how the mortals put the blame upon us
> gods, for they say evils come from us, but it is they, rather,
> who by their own recklessness win sorrow beyond what is given,
> as now lately, . . . Aigisthos married
> the wife of Atreus' son, and murdered him on his homecoming,
> though he knew it was sheer destruction, for we ourselves had told him, . . .
> not to kill the man, nor court his lady for marriage;
> for vengeance would come on him from Orestes, son of Atreides,
> whenever he came of age and longed for his own country.
> . . . And now he has paid for everything." (I.32-43)

Zeus speaks about homecoming, but not about Odysseus's. Rather, he dwells on Agamemnon's aborted homecoming and its terrible consequences: The lover Aigisthos, despite the warnings of the gods, wooed Agamemnon's wife, then murdered Agamemnon, and was finally killed himself when Agamemnon's son, Orestes, came of age. Zeus's speech introduces the Oresteia story which serves later as a prod for Telemachos (Orestes is held up as model for him by Athene, Nestor, and Menelaos), as a vindication of Penelope (whom we are meant to compare with Klytaimestra), and as an invitation to compare Odysseus and Agamemnon, as well as Aigisthos and the suitors. Seen in this light, Zeus's speech is, as several critics have argued, generally programmatic for the epic, taken as a whole.[5] But it also has a more specific function in its particular context.

Though he speaks about Agamemnon's disastrous homecoming, for which Aigisthos bears responsibility, Zeus is "thinking in his heart of *blameless* Aigisthos." Zeus implies, through this epithet, that Aigisthos might have killed Agamemnon because of the crimes of Agamemnon's father, Atreus, against Aigisthos's own father, Thyestes. Aigisthos was, like Orestes, animated by the desire to avenge crimes against his father and, as such, was blameless. While his fate vividly shows the results of ambition, it also underscores the brutalizing effects of smouldering resentment and its imperviousness to reason or persuasion. Taming the son's ambition and overcoming his resentment seem indispensable if the father is to gain his home. It is especially this thought, I would suggest, that truly sets the program for the epic. The plan set out immediately after Zeus speaks draws on this insight, though we must travel far to make it apparent.

After Zeus, Athene is the first to speak. Like us, she had eagerly awaited a speech about Odysseus and is somewhat annoyed by the digression. She says:

". . . Aigisthos indeed has been struck down in a death well merited.
Let any other man who does thus perish as he did.
But the heart in me is torn for the sake of wise Odysseus,
. . . But you, Olympian,
the heart in you is heedless of him. Did not Odysseus
do you grace by the ships of the Argives, making sacrifice
in wide Troy? Why, Zeus, are you so harsh with him?" (I.46-48, 59-62)

Athene readily agrees that Aigisthos got what he deserved, but that is beside the point. Odysseus is blameless; he is not getting what he deserves. Why does Zeus continue to trouble him? Zeus, in responding, denies the allegation. He asks, "My child,. . . How could I forget Odysseus the godlike, he who is beyond all other men in mind, and who beyond others has given sacrifice to the gods, who hold wide heaven?" (I.64-67). Zeus shifts the blame to Poseidon, but nevertheless agrees to help. Still, he conspicuously postpones any decision about how he will help. In the meantime, Athene says she will go directly to Ithaka to "stir up" the son of Odysseus, Telemachos: she will have him summon the Achaians to an assembly, and then travel to sandy Pylos and to Sparta "to ask after his. . . father's homecoming, if he can hear something, and so that among people he may win a good reputation" (I.94-95); she will prompt Telemachos to become both a hearer and a subject of speeches and stories. Zeus, remaining silent, neither dissents nor consents. Athene's purpose is not yet his own. It will take yet another assembly of the gods to win his full participation. Why? If the point is to bring Odysseus home, why proceed in this roundabout way? Why does Athene urge this plan? We must look in on Ithaka and, especially, on Telemachos and the suitors, to find out.

II. Telemachos Among the Suitors

Athene promptly enacts her plan. "[S]he bound upon her feet the fair sandals, golden and immortal, . . . caught up a powerful spear, edged with sharp bronze," and disguising herself as a friend, Mentes, she "descended in a flash of speed from the peaks of Olympos, and lighted in the land of Ithaka, at the doors of Odysseus, at the threshold of the court" (I.96-97, 99-100, 102-5). Leaping over the dunghill, she enters the gates. Here, in the middle of the afternoon, she finds 108 grown men mindlessly amusing themselves with games while their hard-working heralds and henchmen are preparing massive quantities of food and drink. No one notices her arrival. Telemachos is first to note her presence:

Now far the first to see Athene was godlike Telemachos,
as he sat *among the suitors*, his heart deep grieving within him,
imagining in his mind his great father, how he might come back

> and all throughout the house might cause the suitors to scatter, nd hold his
> rightful place and be lord of his own possessions.
> With such thoughts, sitting *among the suitors*, he saw Athene
> . . . the heart within him scandalized
> that a guest should still be standing at the doors. (I.113-24, emphasis added)

Homer's description of the scene and, especially, of Telemachos invites the popular conclusion that, despite his twenty years or more, Telemachos is still a mere babe—passive, young, and immature. He sits among the suitors, but he is not of them; though physically present, he remains psychically absent. Brooding and forlorn, he dreams of his "great," his wonderful and godlike, father, who will come one day and set things right, his father, the heroic superman, who will suddenly fly in from afar to save what is rightfully his, Telemachos included. Telemachos is impotent and weak, will-less and powerless, and all too ready to yield and submit, all too eager to project his childhood still farther into the future.

But this common impression of Telemachos cannot be the whole story. First, though he is seemingly a merely passive daydreamer, Telemachos is certainly not witless. The most common name-epithet for Telemachos is *Telemachos pepnumenos*: to be *pepnumenos* is to be of sound understanding, shrewd, and sagacious. True, this epithet, prominent from the start of the *Odyssey*, may describe Telemachos's potential rather than his state when the poem begins. Still, if such potential exists, can we so readily believe that Telemachos is simply the egoless and unreflective boy his outward passivity might suggest? He may draw faulty inferences or conclusions, but no doubt his mind is alive, wondering, and perhaps even calculating.

Second, Telemachos has lived in the city, close to his mother, for almost twenty years; for most of that time there has been no other parental presence, not even a grandparent: Odysseus's absence drove away also his parents—Antikleia, Odysseus's mother, perished long ago, out of grief and sorrow for Odysseus (XI.202-3); Laertes, Odysseus's father, abandoned the city long ago, likewise out of grief and sorrow, and now roams his estate, like one of the slaves, sleeping in the dirt next to the fire, or alone on "fallen leaves in piles along the rising ground" (XI.190-95). Would not a child, even a dull child, resent the man whose absence caused such misery?

Third, we know that ever since the suitors arrived, even Telemachos's mother, Penelope, has become more distant, more self-absorbed. Telemachos surely notices her odd behavior: her courting and uncourting of the suitors—she sends them messages and makes promises by day but weeps by night; her weaving and unweaving of the shroud—she weaves by day and then unweaves by night; her concern and unconcern for Telemachos himself—she is shocked and horrified to learn that Telemachos has gone abroad but is unaware of his departure until someone tells her, more than a week after the fact (IV.703). Telemachos must feel himself ignored and abandoned.

But, one might argue, there were always, at hand, the trusty Eurykleia, nursemaid to both Odysseus and Telemachos, and the ever faithful swineherd, Eumaios, to prevent resentment or hard feelings and to soothe the child, even when he became a young man. Surely they could and no doubt did tell Telemachos stories about how his exemplary father, the sceptered king, the king of kings in Ithaka, was a man of ready heart, and, as ruler, both kind and gentle, his very thought schooled in justice, stories about how Odysseus inspired loyalty and trust in others. No doubt such lovely images and stories, one could argue, might have comforted and assuaged any hard feelings.

Given what we know of the state of things in Ithaka, however, such a suggestion is unconvincing. If the ways of Odysseus were indeed exemplary, inspiring gratitude and faithfulness, why do the nobles gather daily in the palace, holding Penelope, the servants, and even Telemachos himself hostage? Why do their fathers and grandfathers, the other kings in Ithaka who knew Odysseus firsthand, support such behavior? Such questions would very likely present themselves to *pepnumenos* Telemachos.

Finally, and *most important*, we observe Telemachos's own disparagement of songs or stories. In conversing with Athene (disguised as Mentes), Telemachos's criticism of the suitors betrays his own sentiments. He says, "Dear stranger, would you be scandalized at what I say to you? This is all they think of, the lyre and the singing" (I.158-59). Yet, when Penelope asks Phemius, the bard, to cease from singing the song of the sad return of the Danaans, Telemachos adopts the suitor's attitude: "There is nothing wrong in his singing the sad return. . . People, surely, always give more applause to that song which is the latest to circulate among the listeners. So let your heart and let your spirit be hardened to listen" (I.350-53). Although he denounces the suitors, and even claims to be scandalized by them, with respect to songs, at least, Telemachos seems to share their outlook—songs or stories are not bonds to the past but mere objects of consumption.

We are now inclined to suspect that Telemachos's identification with the suitors might be very great indeed. Telemachos is twenty years old. The suitors, probably not very much older than he, have been in his house for more than three years, ever since his own manly powers began to burgeon. As Homer remarks several times, Telemachos "sits *among the suitors*." Everywhere else in Homer, critics have noted, "orientation in space"— where one places oneself, how one moves, the gestures one makes—is an expression of psychological condition; space is "invested with spiritual quality."[6] Might not the same be true here?

If so, Telemachos's apparent grief and passivity reflect more than a longing to be saved by his heroic, godlike father. One needn't be a Freudian to think that, after twenty years absence, Telemachos might well regard his father as a rival, especially with respect to the affections of his mother. It seems hard to avoid the inference that Telemachos must, in no small part, identify inwardly with the

suitors. But what this might mean requires us to look more closely at the suitors themselves. Who are they? What do they want?

III. The Soul of the Suitors

The presence of the suitors in Odysseus's palace is, at least from one point of view, quasi-legitimate. Much depends on the status of Odysseus. If Odysseus is dead, their presence is, if not altogether justifiable, at least excusable.[7] But even this concession to the suitors assumes that they are indeed suitors, that is, men who have come to court Penelope, seriously to press their suit for her hand in marriage. This assumption proves doubtful on closer inspection.[8]

When they speak before others, in *public*, the suitors insist that they want to marry Penelope. In the public assembly, in Book Two, for example, Antinoos vigorously insists that neither he nor the rest of the suitors will go back to their own estates "until [Penelope] marries whichever Achaian man she fancies" (II.126-27). Eurymachos echoes the same sentiment: It is Penelope, he argues, who "makes the Achaians put off marriage with her, while we, awaiting this, all our days quarrel for the sake of her excellence, nor ever go after others, whom any one of us might properly marry" (II.204-7). But though their public speech throughout points in this direction, their private speech points in another.

In Book Sixteen, when they return after their futile attempt to ambush Telemachos, the suitors, we are told, "went in a throng to the assembly, nor did they suffer any of the young men or any of the elders to sit with them" (XVI.361-62). Antinoos leads them on:

> ". . . [L]et us surprise [Telemachos] and kill him, . . .
> . . . and ourselves *seize* his goods and possessions,
> dividing them among ourselves fairly, but give his palace
> to his mother to keep and to the man who marries her. Or else,
> if what I say is not pleasing to you, but you are determined
> to have him go on living and keep his father's inheritance,
> then we must not go on gathering here and abundantly eating
> away *his* fine substance, but, *from his own palace* each man
> must strive to win her with gifts of courtship; she will then marry
> the man she is fated to have, and who brings her the greatest presents."
> (XVI.383-92, emphasis added)

Here, in closed session, the suitors reveal, as they bear witness against themselves, their own unambiguous criminal intentions. Their presence in the house has only secondarily to do with their wooing of Penelope. If the only, or even the main, concern of the suitors were to win Penelope, they would do so, as Antinoos here suggests, from their own homes. Their feasting in the house of

Odysseus is directed, ultimately, against Odysseus himself, his possessions and his power, and hence, immediately, against Telemachos, his would-be heir.[9]

Once we see clearly their criminal intentions, many of their other remarks take on more sinister meaning. In Book One, for example, Antinoos, taken aback by Telemachos's first daring speech, says: "I hope the son of Kronos never makes you our king in seagirt Ithaka. Though to be sure that is your right by inheritance" (I.386-87). In the Ithakan assembly in Book Two, Leokritos says that even if Odysseus returned "his wife would have no joy of his coming. . . but rather he would meet an unworthy destiny" (II.249-50). And, later, in Book Twenty-one, when the suitors, one after the other fail to string the bow of Odysseus, Eurymachos speaks for them all when he says:

> "Oh, my sorrow. Here is a grief beyond all others;
> it is not so much the marriage I grieve for, for all my chagrin.
> There are many Achaian women besides, . . .
> but it is the thought, if this is true, that we come so far short
> of godlike Odysseus in strength, so that we cannot even
> string his bow. . . ." (XXI.249-55)

The suitors clearly want to defame and destroy Odysseus; they want to take his place. They do not envy Odysseus his kingliness—his "thoughts schooled in justice," his gentleness, his ability to rule fairly, or even the faithfulness of his beautiful and prudent wife. Rather, they envy him his power and his strength, which they try, metaphorically, to gather to themselves by eating up his substance, and by trying to kill his son Telemachos. The suitors are "civilized" cannibals who, like their soul-mates, the Cyclopes, would assert brute force in place of kingship. They look to nothing beyond themselves, respect nothing that came before themselves, honor nothing above themselves. Forever whiling away their hours playing games, stuffing their faces, drinking and whoring, they are neglectful of time, past and future. They consult only their own most pressing and immediate needs and desires.

In retrospect, Telemachos's initial remark to Athene, a propos the suitors' consumer-like attitude toward song, tells the whole story: as Phemios, "who sang for the suitors, because they made him," played his lyre and struck up a song, Telemachos, we recall, remarks, "Dear stranger, would you be scandalized at what I say to you? This is all they think of, the lyre and the singing" (I.154-59). If human beings are by nature rational beings, that is, beings with *logos*, clearly, for Homer, the highest and most proper use of speech is the telling of stories. Further, it is in their attitudes toward stories that the souls of human beings are most clearly revealed. To put it succinctly, if somewhat formulaically, no stories, no memory; no memory, no sense of time; no sense of time, no respect or *aidos*; no respect, no kingship; no kingship, no city. Not accidently, in Homer, to have the mind of a king is tantamount to being a host of strangers. The suitors'

perverted attitude toward songs or stories points directly to their shamelessness with respect to strangers, and, finally, to their criminal desire to dethrone Odysseus and to overturn the city. But, as we have already seen, Telemachos, despite his apparent shame and alleged hatred of the suitors, fundamentally shares their attitude toward songs. We can now give a fuller account of Telemachos's inner state, and the difficulties it might pose for the homecoming of Odysseus.

IV. Telemachos, the Suitors, and the Council of the Gods

It goes without saying that Telemachos is neither fully conscious of the ambivalence he might feel toward Odysseus, nor fully aware of the extent to which he may share the suitors' outlook. But given what we have observed about Telemachos, we cannot overlook his, at least partial, identification with the suitors and, hence, his own possibly criminal intentions. Recall the initial description: "Telemachos. . . sat *among the suitors*, his heart. . . grieving within him, imagining. . . his great father, how he might come back, and. . . cause the suitors to scatter, and hold his rightful place and be lord of his own possessions" (I.113-17, emphasis added). Might not another reading, very different from the one offered earlier, equally fit this description? Telemachos, like the suitors, longs to replace Odysseus, but knowing that such a place is surely not his "rightful place," and that Odysseus's "possessions" are not his for the taking, his heart "grieves within him." He bitterly dreams about his "great," that is, his powerful and mighty, father who abandoned him long ago, and about how he will return and reclaim what is rightfully his, scattering all the suitors, himself included.

On the earlier reading of Telemachos's state, feelings only of personal impotence and weakness were present, with Odysseus cast in the role of god or heroic savior. On this reading, dreams of personal potency and vitality are also present, and Odysseus appears as a rival king. Where we earlier saw Telemachos's desire to prolong his childhood, we now see a somewhat guarded and guilty awareness of patricidal desires. While the first portrait suggested will-lessness, ego-lessness, and readiness to depend on others, to submit and yield in order to avoid trouble, the second suggests will-fulness, concern with identity, readiness to stand independently, to assert himself, even to court trouble. Though the sentiments point in opposite directions—the one to cowardice, the other to pride—though the longings they reflect are logically incompatible, does it not seem likely that *both* may co-exist within Telemachos's troubled soul and inform his self-understanding?

If so, Telemachos faces a frightful dilemma. For if Telemachos is himself a suitor, albeit one with a conscience, can he ever wholeheartedly welcome back

his father? Conversely, if he looks only to his father for his own salvation, can he ever realize his wish to stand on his own two feet? Longing for his father makes it impossible for him to act at all; resenting his father and longing to replace him make it impossible for him not to act. Telemachos's habitual grief, his immobility, and his inertia manifest this dilemma and the division within his soul. Indeed, his frank and obviously bitter admission to Athene, that he does not know whether he really is the son of Odysseus—"My mother says indeed I am his. I for my part do not know" (I.215-16)—demonstrates emphatically his ambivalence.[10] Telemachos, it seems, like those other sons, Aigisthos and Orestes, has —at least in part— a resentful, vengeful soul.

We are now in a better position to make sense of the odd sequence of Zeus's reflections and Athene's plan narrated at the beginning of the *Odyssey*. Since homecoming is neither an heroic deed that one can freely choose and perform by oneself, nor a trial that one must endure and suffer through alone, it stands to reason that if Odysseus is to have his homecoming, others must play their vital roles. Just as one must recognize in oneself one's own vulnerabilities and dependencies in order to seek home, so one must depend on others to achieve it. Odysseus must depend on the acceptance of the Ithakans to resume his kingship, on Penelope to resume his place as husband, on Laertes to resume his relation as son, and on Telemachos to resume his relation as father. Perhaps this is what Odysseus is contemplating as he sits, impotent and forlorn, on Kalypso's island, looking out over the waters, shedding tears, "longing to die."

Of the relations Odysseus must resume to gain his homecoming, his relation with Telemachos, it would seem, must surely be primary. For Odysseus's kingship cannot be secured if he has no heir, nor, we imagine, can he live again easily with his wife, if their only child has psychically, if not literally, unsonned himself, or, even worse, if he must lose or even kill his son in order to regain his home. Neither, we imagine, can he face his father, Laertes, his still living past, if he knows there will be no future. But, for the many reasons we have suggested, the impediments to Odysseus's reunion with Telemachos are great. Telemachos, unlike Aigisthos, for example, the subject of Zeus's reflections, cannot be relied upon to act, unequivocally, for the sake of his father: Odysseus is to Telemachos as both Thyestes *and* Agamemnon combined were to Aigisthos. Is it any wonder, then, that it takes more than one council of the Gods to arrange the homecoming of Odysseus? Doesn't the failure of the gods to assuage the heart of Aigisthos provide fair warning of the difficulty of the task at hand? Is it any wonder that Athene proposes and enacts, with Zeus's tacit consent, the plan that she does, a plan that begins with, and ultimately depends on, Telemachos? Is this not why the *Odyssey* begins with the Telemachy?

In Telemachos, then, as another meaning of his name—"final battle"—suggests, Odysseus faces his most decisive battle. Ready to sail home at the outset of the narrative, Odysseus must first await and then assist in the radical reorien-

tation of Telemachos: Telemachos must learn to beat down his own worst fears and resentments and to moderate his own ambition; he must learn to see the home of Odysseus as his own, not to conquer but to inherit, and not to inherit passively, but actively to preserve and perpetuate; he must learn to see Odysseus neither as a god or heroic savior, nor as rival, but as a man and as his father. The radical reorientation, or education, of Telemachos bears the burden of much of the narrative that ensues. It proceeds in two stages: In stage one, Telemachos is brought into consciousness of himself as the son of Odysseus, largely through speeches and stories (Books I to IV and Book XVI); in stage two, he comes to accept the responsibilities incumbent upon him as the son of Odysseus, primarily through deeds (Books XVI to XXIII).

Stage one culminates in the moment that Telemachos allows Odysseus to come into his embrace; stage two culminates when Telemachos voluntarily goes forward in his father's footsteps and under his guidance, when father and son fight shoulder-to-shoulder, first against the suitors, and later, with Laertes, against their kin. Together, both stages fulfill Athene's announced plan. Though we cannot here review every step in the education of Telemachos, I shall try in the last section to make vivid some of its major moments.

V. The Education of Telemachos

Like his father's travels which they seem so closely to imitate, Telemachos's travels take him far from home, exposing him to things he had never experienced before. But, at the same time, they also bring him, psychically, closer to home. Visiting the cities of men and learning their minds—seeing the world without—enables Telemachos to see also himself within. As one student of the *Odyssey* put it, Athene exposes Telemachos to things she knows "will bring out certain traits and responses in him which he will recognize as having come from his father Odysseus."[11] Telemachos's travels, then, hold up a mirror to his own Odyssean soul. Books I to IV abound with examples. Let us look at a few.

His "travels" begin even before Telemachos steps out of his own home in Ithaka. Knowing full well that cultivating the capacity to be a host of strangers is tantamount to cultivating the capacity for kingship, Athene descends on Ithaka in a foolproof disguise. Her sudden arrival immediately initiates Telemachos's physical and psychic journey away from the suitors, and soon from his mother as well. Abandoning his habitual lethargy and his place among the suitors, Telemachos gets up and goes to meet Athene, offers her food and drink, and then speaks to her privately, "apart from the others" (I.132). Even before he asks after his guest's identity, he draws attention to the scandalous behavior of the suitors (I.158-62) and articulates his own helplessness and hopelessness (I.163-68).

Athene's very presence engenders the initial journey toward self-recognition. Her subsequent technique takes him still further.

As Norman Austin has observed, Athene proceeds dialectically, posing tactful but pointed questions out of "feigned ignorance." She enacts the part of "the skillful psychotherapist who forces her patient to verbalize, and thereby creates in him the psychological readiness for action."[12] She compels Telemachos to bear witness against himself and, hence, further to confront his own situation. But the main point of her method is made clear only as she departs:

> After maintaining her disguise throughout the scene, Athena metamorphoses into a bird and flies away. . . We are told that Telemachos at once recognized that his visitor had been a deity. . . Telemachos has [thus] been given his first lesson in discernment. . . His powers of observation [are made] to penetrate disguises, to distinguish the genuine from the spurious.[13]

As we all know, it is precisely this power of discernment, often manifest as circumspection, sometimes as irony, that especially characterizes the family and friends of Odysseus, but above all, Odysseus himself. Athene, then, brings Telemachos into closer relation to Odysseus, first, by "sharpen[ing] his inner vision," and then, through her act of self-revelation, by turning his "discerning eye on the external phenomena around him."[14]

Telemachos is a quick learner. He absorbs and immediately applies the lesson, making manifest, by doing so, his close resemblance to his family: In reply to the suitor's inquiry about the identity and mission of his guest, he devises a plausible, yet deceitful response; indeed, he lies three times in succession. Further, he immediately assumes an authoritative posture: He summarily dismisses his mother when she tearfully complains of the singer's song, and he tells the suitors of his intention to put an end to their rapacity. Both his mother and the suitors, we are told, stand back in amazement and, we must imagine, Telemachos probably does also. But more important than these immediate effects, the powers tapped by Athene give Telemachos the courage to heed her instructions—to go abroad in search of news of his father *and* to assume a more active and assertive role at home. In carrying out these instructions, he further perfects his own Odyssean powers, and, in this way, is brought more vividly to recognize his kinship to Odysseus.

The travels abroad bring Telemachos face to face with the world of his father. From Odysseus's friends and admirers—Nestor, Menelaos, and Helen—Telemachos acquires close knowledge of a world he never knew. In Pylos and Sparta, where these heroes of old still live and re-live their stories, he sees people weep as they tell of their beloved companion, Odysseus the king, Odysseus the warrior, and most especially Odysseus the able and cunning strategist.

In each place, Telemachos first listens attentively and later speaks, first hesitantly, then with growing confidence. In each place, he is immediately

recognized as the son of Odysseus, by the likeness of his feet, of his hands, of his glancing eyes, his head and his hair, and, most significantly, by the likeness of his words. In each place Telemachos weeps, first for his own impotence, then for his father. In each place he becomes progressively stronger, more self-possessed, more clever, more independent, and, in Sparta, very confident that Odysseus is still alive and, very likely, already at home.[15]

Recall, for example, the very tactful, utterly plausible, but completely false, excuse he gives Menelaos for leaving Sparta: Telemachos, the young man who thinks about little besides his home and family, says, "I could well be satisfied to sit here beside you for a year's time, without any longing for home or parents . . . but by now my companions in sacred Pylos are growing restless" (XV.88-91). Recall the wish he expresses to Menelaos, that arriving in Ithaka he might find Odysseus, which wish, in turn, prompts the bird omen, which Helen interprets to mean that Odysseus was already at home (XV.155-60, 171-78). Recall his decision to risk incurring the wrath of Nestor by going directly home—he neither stopped to give Nestor greetings from Menelaos, as he had promised, or to bid him farewell in person. Athene's instructions, it seems, have forced Telemachos to develop Odysseus's own greatest virtues—resourcefulness, prudence, tact, self-control, and a keen sense of timing.

No longer hopeless and helpless, well aware of his own identity as kin to Odysseus, confident in his growing powers, Telemachos sails home again to Ithaka. Though we, the readers, delight in Telemachos's achievements and appreciate the signs of his increasing self-recognition and empowerment, we must wonder, now more than ever, whether Athene's careful ministrations won't backfire. As this first stage of Telemachos's education nears its completion, we wonder whether the ground that has been so successfully laid for the recognition and reunion of this son and his father won't collapse under its own weight. Is there any reason to believe that the changes wrought in Telemachos haven't further fueled his resentment, and, even more, armed his ambition? The culminating scene of this first stage of Telemachos's education, the reunion of Telemachos and Odysseus, warrants our close attention and, unfortunately, supports our fears.

It is early in the morning. Odysseus, newly returned to Ithaka but disguised as a beggar, and Eumaios, the swineherd, are preparing their breakfast inside Eumaios's hut. Suddenly, as if from nowhere, Telemachos appears. Amazed, Eumaios runs out to greet him, and embraces and kisses him "as if he had escaped dying." In a burst of weeping, Eumaios speaks: "You have come, Telemachos, sweet light; I thought I would never see you again" (XVI.21-24). Telemachos, away, we presume, for little longer than a week, is welcomed by Eumaios, "as a father, with heart full of love, welcomes his only and grown son. . . when he comes back in the tenth year from a distant country" (XVI.17-19). We imagine Odysseus, inside the hut, is listening attentively. The two, Eumaios and

Telemachos, now go into the hut, and for the first time in twenty years Odysseus beholds Telemachos, and Telemachos, Odysseus. The two sit close together, in silence, and they eat. The silence must be deafening. For if Telemachos has really absorbed Athene's lessons, and we have every reason to believe he has, surely clever, perspicacious Telemachos must immediately penetrate the disguise of the man before him. The conversation that ensues must be excruciatingly difficult for both son and father.

Telemachos addresses Eumaios and seems purposely not to ask who the stranger is, but rather where he came from, how the *sailors* brought him to Ithaka, who the *sailors* were. Eumaios responds with a story about the stranger's origins and wanderings, but, most emphatically, with a command: "'I put him into your hands now. Do with him as you will. He names himself *your* suppliant" (XVI.66-67, emphasis added). The tone of Telemachos's answer no doubt surprises Eumaios, as much as it reveals to us the depth of his own ambivalence. "Eumaios," he says, "this word you spoke hurt my heart deeply. For how shall I take and entertain a stranger guest in my house? I myself am young," he says, retreating at least in speech, to his own impotent past, "and have no faith in my hands' strength to defend a man, if anyone picks a quarrel with him." He blames his own impotence, in part, on his mother: She "ponders two ways, whether to remain here with me, and look after the household, keep faith with her husband's bed,. . . or go away at last with the best man of the Achaians who pays her court in her palace." Though he offers to outfit the stranger with clothing and weapons, he says he wants to do so in order to send him on his way. Concluding, he again draws attention to his own incapacity: "I will not let him go down there and be where the suitors are, for their outrageousness is too strong and I fear they may insult him, and that will be a hard sorrow upon me and a difficult one for even a strong man to deal with" (XVI.69-89).

Odysseus, surely recognizing that Telemachos knows who he is, responds, as we might expect most any father would, first with grief, then disbelief, then with some instruction. He tries, as Athene had earlier, by asking questions, tactfully and hopefully to appeal to Telemachos's own better nature:

> "Dear friend,. . .
> you eat away the dear heart in me, as I listen
> to what you tell of the suitors and their reckless contrivings
> inside your palace, against your will, when you are such a one
> as you are.Tell me, are you willingly oppressed by them? Do the people
> hate you throughout this place, . . .
> . . . Do you find your brothers wanting?. . .
> I wish that I were truly as young as I am in spirit,
> or a son of stately Odysseus were here, or he himself might
> come in from his wandering. . . . If such
> things could be, another could strike my head from my shoulders

if I did not come as an evil thing to all those people
as I entered the palace of Odysseus, the son of Laertes.
And if I, fighting alone, were subdued by all their number,
then I would rather die, cut down in my own palace,
than have to go on watching forever these shameful activities, . . .
(XVI.91-107)

Odysseus's speech does not promptly have the desired results. In responding, Telemachos does affirm, as he hadn't before, that he is the son and heir of Odysseus—"[T]he son of Kronos," he says, "made ours a single line. Arkeisios had only a single son, Laertes, and Laertes had only one son, Odysseus; Odysseus in turn left only one son, myself" (XVI.118-20). He acknowledges that he has friends among the people. But he insists, again, on his own helplessness: "Odysseus. . . left only one son, myself, in the halls, and got no profit of me, and my enemies are here in my house, beyond numbering. . . [and] my mother. . . does not. . . make an end of the matter" (XVI.119-29). And moreover, now, in addition, Telemachos blames the gods. It seems that for Telemachos to accept his kinship, he must forfeit his manhood; he cannot accept his father as father, but only as a conquering hero, a hindrance and rival to his own empowerment.

In what follows, however, Telemachos acts with confidence, and shows that his speech of impotence was largely a pose. He commands Eumaios to go to the city to tell Penelope of his safe return. As if taking her cues from Telemachos, Athene transforms Odysseus into the resplendent hero Telemachos had envisioned, and she summons Odysseus to reveal himself to his son. Telemachos is caught off guard. Astonished by the transformation, he first averts his eyes and then, taking Odysseus to be some god, begs him to be merciful. Odysseus now speaks with great restraint and, we imagine, with great pain: "No god. Why take me for a god? No, no. I am that father whom your boyhood lacked and suffered pain for lack of. I am he" (XVI.187-89). Then, holding back no longer, the tears ran down his cheeks and he kissed his son.

Telemachos's disbelief persists. Odysseus, painfully, repeats himself: "Telemachos. . . No other Odysseus than I will ever come back to you. . . [H]ere you see the work of Athene. . . who turns me into whatever she pleases" (XVI.202-4, 207-8). Recognizing Telemachos's own pain, Odysseus neither dissembles nor forces himself on Telemachos. He makes no demands. He speaks, then he sits down and waits. Finally, Telemachos

folded his great father in his arms and lamented,
shedding tears, and desire for mourning rose in both of them;
and they cried shrill in a pulsing voice, even more than the outcry
of birds, ospreys or vultures with hooked claws, whose children
were stolen away by men of the fields, before their wings grew
strong; such was their pitiful cry and the tears their eyes wept.
(XVI.214-19)

This very moving moment does not, however, complete our quest. For though Telemachos now openly acknowledges that Odysseus is Odysseus, and though he has allowed Odysseus into his embrace, in the conversation that follows he makes even more vivid his deep ambivalence and irresolution about his own sonship. When Odysseus eagerly proposes plotting revenge on the suitors, Telemachos responds with doubt and cunning: "What you have spoken of is too big; I am awed" (XVI.243-44). Even though he is more aware than ever before of Athene's guardianship, and of his father's own powers, and of his own great abilities, Telemachos is strangely not ready to join. His pose of impotence is a mask for his ambivalence, not about the likelihood of success but about its desirability.

Odysseus now faces his most difficult and delicate trial: He must encourage his son to assume his manhood, knowing full well that it may rob him of his own. And so begins stage two of the education of Telemachos. This time Odysseus, not Athene, is "Mentor."

Like Athene's educational strategy, Odysseus's trusts largely to the psychological impact of exposure to difficult and trying circumstances. Telemachos, as before, will be made to assert his authority as host, but this time he will do so, purposefully and consciously, on behalf of his father. He will be made to exercise his own great Odyssean capacities for cunning and self-control, just as Odysseus would exercise them: Telemachos must pretend that he doesn't know the stranger; he must stand still and hold back as others taunt and ridicule and throw things at his father. And he must do all this precisely for the sake of Odysseus.

If the success of a teacher is in the performance of his students, then Odysseus can surely be proud. For from the moment Odysseus, disguised as a beggar, enters his palace, Telemachos acts coolly, efficiently, and competently. But, as we all know, following the directives of others, however proficiently, seldom reveals the heart. Though the trials he is made to endure may have been necessary, they were not yet sufficient. Telemachos's true willingness to accept himself as son and heir becomes manifest only when he departs from his father's directives and takes initiative himself. Nowhere is this more evident, or more threatening to Odysseus, than in the contest of the bow. Here, Odysseus's fate comes to rest entirely in Telemachos's hands.

It was Penelope who had proposed the contest of the bow to the suitors, promising to marry the man most able to string Odysseus's bow with the greatest ease, and to send an arrow through twelve axes. Both the bow and the contest had been Odysseus's trademarks in Ithaka, as the suitors well knew. It was, therefore, the perfect test, and, for a young man, the fitting rite of passage. Penelope had conceived the plan the evening before, during her long conversation with the "stranger" Odysseus; Odysseus, self-confident, had given it his full approval. But when Penelope, after much weeping and hesitation, produces the bow, and invites the suitors to enter the contest, and Eumaios, following

Penelope's command, places the bow and the gray iron before the suitors, Telemachos—quite on his own and without foreknowledge of the plan—steps forward to take command. Disrupting the timing, and, seemingly calling Penelope's bluff, *he* propels the situation toward its crisis.

While the suitors stand round, each gazing hopefully at the bow, Telemachos, witlessly laughing, bursts forth: "Come, you suitors," he yells, "since here is a prize set out before you, a woman; there is none like her in all the Achaian country, neither in sacred Pylos nor Argos nor in Mykene, nor here in Ithaka itself, nor on the dark mainland. . . . Come, no longer drag things out with delays, nor turn back still from the stringing of the bow. . . " (XXI.106-12). Telemachos abruptly announces that he too is willing to enter the contest, and claims that should he win, he too will be entitled to the prize: "If I can put the string on it and shoot through the iron, my queenly mother would not go off with another, and leave me sorrowing here in the house; since I would still be found here as one now able to take up his father's glorious prizes" (XXI.116-17). Telemachos's own words seem to hurl him further onward, for immediately after speaking he "sprang upright," set the axes, dug the trench, drew the chalkline, and stamped down the earth, all, we are told, properly and orderly, and very much to the amazement of those present, for he had never seen it done before. Then, standing on the threshold, he went and tried the bow.

Telemachos's witless levity may be his most artful disguise, as Norman Austin has suggested: "No more appropriate irony (acting the child, harboring the thoughts of the adult) could be found."[16] But, I think, much more likely, it is the spontaneous and effusive response of a man, suddenly abundantly aware that everything he ever wanted is now within reach. Now he can claim all that is "rightfully" his. Now he can show both himself and the world *his* own strength and power. Now he can take his revenge—on the suitors, on his mother, on his father. No doubt Penelope waits and watches apprehensively—and so do we. But no one could be as apprehensive or as helpless at this moment, or as magnificently self-controlled, as Odysseus.

"Three times [Telemachos] made [the bow] vibrate, straining to bend it, and three times he gave over the effort, yet," the poet pointedly tells us, "*in his heart [he] was hopeful of hooking the string to the bow and sending a shaft through the iron.*" Finally, "pulling the bow for the fourth time," we are told, "*he would have strung it*, but Odysseus stopped him, though he was eager, *making a signal with his head*" (XXI.125-30, emphasis added). Though Telemachos desists on a paternal glance, he submits not from weakness but from strength. Now knowing that he *could* string the bow, he no longer feels compelled to do so. Having finally realized his own manhood and felt his own power to equal his father, Telemachos can now freely and generously acknowledge and accept his father's lead and authority—perhaps because he recognizes that it was his father's self-control

which had enabled him to gain his moment of triumph, and even more, because *the triumph is clearly acknowledged in his father's signal.*

Immediately, without resentment, as if on cue, Telemachos joins the plot with his now characteristic Odyssean cunning and dissembling: "Shame on me," he says, " 'I must be a coward and weakling, or else I am still young, and my hands have yet no confidence to defend myself against a man who has started a quarrel. Come then, you who in your strength are greater than I am, make your attempts on the bow, and let us finish the contest' " (XXI.130-35).

Telemachos's silent assent to Odysseus's silent signal is his *true* embrace of Odysseus. All the events that ensue make abundantly clear his respect, his loyalty, and his proud affection. One moment especially stands out. After each of the suitors, in turn, tries, unsuccessfully, to string the bow, blaming their incompetence on Apollo, they try to postpone the contest. But at this moment the stranger, Odysseus, begs for a chance, and Penelope comes forward in his defense. When the suitors strenuously object, Telemachos again takes command. He reiterates his claim that he has "the power in the household," and, as he had done once before, sharply urges Penelope to attend to her own work. But this time, though he challenges his mother's authority, Telemachos, quite vigorously, takes up her cause:

> "My mother, no Achaian man has more authority
> over this bow than I, to give or withhold, at my pleasure;
> not one of those who are lords here in rocky Ithaka,
> not one of those in the islands off horse-pasturing Elis;
> no one can force me against my will; if I want, I can give it
> to the stranger as an outright gift, to take away with him. . . " (XXI.344-49)

Now Penelope, Odysseus, and Telemachos are, in Homer's word *homophrosynē*; they all think alike in their thoughts. Moments later, Telemachos, over the objections of the suitors, has the bow delivered to Odysseus. Assured of the future, Odysseus can now reunite past and present. Odysseus, now truly home, proceeds to string the bow and reclaim his house. And Telemachos, knowing, at last, that he is able to fill his father's shoes, with his father's blessings, gladly takes his rightful place as next in line.

Coda

The *Odyssey* ends, we recall, as grandfather Laertes, father Odysseus, and son Telemachos go forth to face the grandfathers and fathers who would avenge the terrible death of their sons. No doubt the wrath felt by these avenging fathers was fueled by their own deeply felt guilt. Was it not their own indifference to the outrageous exploits of their growing sons that won them these sorrows? No doubt a terrible blood bath would have ensued had Athene not intervened. But she did, and we rest content thinking that with the pledges sworn to by both sides, and Odysseus's reunions completed, Odysseus's home is secure now and for the future.

So ends the poem. But as we all know this end does not mark the absolute end of Odysseus's travels. Teiresias had foretold and Odysseus had repeated to Penelope the tale of the journey that still remained. It is to be, recall, a solo journey to a far-away, landlocked place, where there are people living who know nothing of the sea, not its food, its ships, not the "well shaped oars which act for ships as wings do" (XI.125). Odysseus is to carry his own oar to this land, which he will recognize when another wayfarer, meeting him on the road, mistakenly calls his oar a winnowing fan. Once there he is to plant his oar and render ceremonious sacrifice to Poseidon.

We may speculate, fruitfully, I think, about where this land is, how long such a journey may take, what the planted oar might mean to these landlocked folks, and so on. But given our concern this evening, it occurred to me that encoded in this last, rather obscure adventure, may indeed lie Homer's deepest reflection on fathers and sons, or more generally, on parents and children. I asked myself this question: Given all that has happened, would it not have made more sense for Homer to have had Odysseus give his well-shaped oar, that artful reminder of his own manhood and wanderings, to his own son Telemachos? Apparently not. Why not?

If the *telos* of Homer's poem is the completed home, that is, the home that is secure now and in the future, Homer seems to be suggesting that for a home to endure, parents must be ever vigilant. They must watch their children, of course, but they must especially watch themselves. They must desist, as we have seen Odysseus do, from asking their children to accept them, but, more importantly, they must desist from foisting on their children their own hopes and dreams and ambitions. Parents may continue to live in their children, but they cannot live through their children. They must inspirit and guide their children, school them in their ways and traditions, give them encouragement and time—Homer never excuses Odysseus's absence—but they cannot put their own well-shaped oars into the hands of their sons or daughters. The life they have given can replace, but it cannot repeat their own. Having prepared the way, we parents must allow the next generation to carve their own oars, to navigate their own waters, even

as we hope that their journeys will resemble our own. A very hard lesson, indeed. Even Odysseus must be coaxed.

If this speculation is true, then it would seem that the real education of Telemachos has only just begun.

* * *

Notes:

1. Samuel Butler, *The Authoress of the Odyssey* (New York: AMS Press, 1968), p.279.
2. Homer, *Odyssey*, translated by Richmond Lattimore, (New York:Harper and Row, 1977). All *Odyssey* citations are from this translation, except where otherwise indicated.
3. Cited in Heinz Kohut, "Introspection, Empathy, and the Semi Circle of Mental Health," *International Journal of Psycho-Analysis*, 63 (1982) 404. (There is one allusion to the embassy in the *Odyssey* at XXIV.115-19.)
4. *Ibid.*
5. Cf. Edward F. D'Arms and Karl K. Hulley, "The Oresteia-Story in the *Odyssey*," *Transactions and Proceedings, American Philological Association*, 77 (1946) 207-13
6. Norman Austin, *Archery at the Dark of the Moon* (Berkeley: University of California Press, 1975), p.102. Austin continues his argument as follows: "Man's movement, his gesture even, is a declaration of that harmony between inner and outer. Gesture is space invoked, space imitated. Going eastward or westward, upward or downward, left or right, is a physical act, but an act significant of a person's character or emotion. It is because space has quality that we are entitled to find significance in Achilleus' gesture when he hurls the royal scepter to the ground and sits down himself (Il.1.245-46) or to assert that when Agamemnon sits down to deliver his apology to Achilleus his posture is as important as his utterance (Il. 19.77)." Austin cites Odysseus's father, Laertes—his ragged clothes, his abandonment of the city, his preference for ashes and leaves, or for decay and dissolution—as the "clearest example" of this phenomenon.
7. This is the view set out by, among others, Norman Austin in "Telemachos Polymechanos," *California Studies in Classical Antiquity*, Vol.2, 1969, p.47.
8. See Agathe Thornton, *People and Themes in Homer's Odyssey* (Dunedin: University of Toronto Press, 1970), especially, Chapter VII. "The Suitors," pp.63-67. Though the inferences I draw are my own, the discussion of the suitors that immediately follows draws heavily on Thornton's observations.
9. Cf. Thornton, *op.cit.*, p.64

10. It is, in general, the case that in the world according to Homer, to be in the dark about who your father is is to be in the dark simply—disoriented and without hope. See, especially, Homer's simile at V.394-99.
11. Mary Hannah Jones, "A First Reading of the *Odyssey*," in *Prize Papers*, St. John's College, 1977-78, p. 62.
12. Austin, "Telemachos Polymechanos," *op.cit.*, p.53
13. *Ibid.*, p.53
14. *Ibid.*
15. In an effort to emphasize the apparent changes in Telemachos and the moment of his meeting with his father, I have shortchanged the "schools" that were Sparta and Pylos. It is surely no accident that Athene sent Telemachos to these places in particular. For no doubt pepnumenos Telemachos is made far more aware of his geographical and paternal origins by the very fact that each place and its presiding figure(s) is so different from the other, and so different from Ithaka. Let me collect here just a few of the more salient differences.

    Sandy Pylos, where 4,500 residents congregate, at day break, near the shore to offer a ceremonious sacrifice of 81 bulls to Poseidon, stands in stark contrast to the rich, inland plains of horse-pasturing Sparta, and both stand in stark contrast to rocky Ithaka. In Pylos, where men live piously and simply and, seemingly, mostly outdoors, old Nestor presides. In Sparta, where one's attention is drawn to the lavish interiors, to the abundant wealth and beauty of the palace—Telemachos mistakes the palace for the home of Zeus himself—Menelaos and Helen preside. In Pylos, where every visitor provides a fresh occasion to show one's gratitude to the gods, men celebrate the past and look forward to the future: Nestor is always flanked by his six sons and companions. In Sparta, where every visitor provides a fresh reminder of the miserable origins of Trojan War, men look only to past pain and seemingly have no future: though Helen and Menelaos are celebrating a marriage—their only child, Hermione, born before the war, is about to marry Neoptolemos, Achilles' son—the departure of Hermione further highlights the emptiness, indeed, the sterility, of their home. Though he hears tales of Odysseus' heroic virtues, he also hears tales about the difference between Odysseus and his heroic counterparts, tales which, no doubt, spark Telemachos' special interest. In Pylos, for example, Nestor's tale about the strategy he urged at the end of the war invites Telemachos to think about the difference between Nestor and Odysseus as counsellors. Menelaos's and Helen's tales of Odysseus' enormous capacity for self-control make evident, by contrast, their own deficiencies. See, especially, Austin, *Archery at the Dark of the Moon* and George E. Dimock, *The Unity of the Odyssey* (Amherst: The University of Massachusetts Press, 1989) for a more extensive discussion of the "schools" of Pylos and Sparta.
16. Austin, "Telemachos Polymechanos," *op.cit.*

The Least Deceptive Mirror of the Mind: Truth and Reality in the Homeric Poems

Carl A. Rubino

I

At the climax of his encounter with the Roman governor Pontius Pilate, the strange and annoying Nazarene called Jesus introduces the matter of truth: "I was born and I came into the world to bear witness to the truth, and everyone who sides with the truth hears my voice" (John 18.37). Pilate's well-known response belies his frustration; "What is truth?" he asks, and quickly turns to leave the room. Pilate seems well aware that a discussion of truth between him and Jesus would involve the sort of "cultural confrontation" that any Roman administrator who wished to succeed could ill afford.

Had Jesus and Pilate been Westerners of a more recent stamp, they might have engaged in a discussion of the notions of transparency and fullness. That most exemplary Westerner, Erasmus, who falsely claimed to hail from Rotterdam, makes his heroine Folly pay heed to—and at the same time undercut—the ideal of transparency. "Folly speaks," and she informs us that "speech is the least deceptive mirror of the mind."[1] We also expect what is true to be complete; we demand fullness; when we swear in court, we promise "to tell the truth, the *whole* truth, and nothing but the truth." Consider the hearings on the Watergate scandal or the more recent Iran-Contra affair. Both were replete with demands for and promises of "*full* disclosure."

Some have come to associate the demand for transparency with what they call the "correspondence theory of truth," where it is a matter of accurate representation. If I say "It's raining outside" when it is actually sunny, I have not represented reality but masked it; my words do not correspond to what is really

---

Carl Rubino is Professor of Classics at Hamilton College. He was a tutor at St. John's College, Annapolis, in the academic year 1988-89, and at the Graduate Institute in the summer of 1990.

happening out there. In its extreme form, the correspondence theory takes ideas as copies of objects and words as copies of ideas. Fullness, on the other hand, is associated with the "coherence theory of truth." Here it is a matter of getting everything to hang together, and there is no truth short of the whole truth.[2] Thus the slick lawyer of television and films or the tough detective-novel cop will try to knock holes in a suspect's story; find the places where the story does not hang together, and the whole false tangle will unravel just like Penelope's web, that delaying fiction ultimately unmasked by the truth-hungry suitors (*Od.* 2.85-110). Here we must note an important corollary: Even though someone might be telling the truth, even though what he or she says is "what really happened," if that person is unable to tell it coherently, in the proper style, it can and often will be taken as falsehood, as all those bumbling victims of fast-talking lawyers can testify.

The notion of truth as coherence is the one we often invoke in attempting to explain how works of art—fictions all—can somehow be true. When we gaze with wonder upon the awesome splendor of Michelangelo's David, for example, we do not expect the statue merely to correspond to what a human male body actually looks like. If we want to see "real bodies," all we have to do is look at one another; there is no need to contemplate great works of art. What we really expect from Michelangelo, or from any other artist, whether painter, sculptor, writer, or composer, is that the work cohere in a way that pleases, moves, and inspires us. Works of art, even so-called realistic works, do not merely correspond to reality; on the contrary, they transform reality, investing it with a marvelous luminosity, and the mode of transformation is their superior degree of coherence.

Speaking from another point of view, we might associate transparence with candor and fullness with spontaneity. Although such associations serve to demonstrate that it is ultimately impossible to maintain our distinctions absolutely, since the meanings of candor and spontaneity often overlap, we can still perceive the distinction if we remember that a candid person is someone whose words clearly reflect his thoughts, while it remains true that at least one phrase associated with spontaneity is "He simply blurted it all out."

II

In any case, everyone would probably agree that both candor and spontaneity are obvious characteristics of "the best of the Achaeans," Achilles. At the opening of the *Iliad* he enjoins a fearful Calchas to "tell it like it is" (1.74-91), and he insists upon "speaking his mind" to a resentful and angry Agamemnon who is yet quite willing to compromise (examine 1.116-20 and 140-47, lines too little noted by commentators). It is difficult to imagine a hero like Achilles not saying what he means; and it is this attitude as much as Agamemnon's arrogance that

brings on the crisis of the *Iliad*. To reach the accommodation advocated by Nestor (1.254-84), compromise is necessary; as Nestor says, it is better to listen to reason and take advice. For Nestor it is a question of compromise between manly prowess on the one hand and political authority on the other. Unfortunately, all such compromises require a certain softening or blurring of what one sees clearly as hard truth; and Achilles simply will not modify his position or mollify his words. Agamemnon is well aware of this; he notes that even though the gods have made Achilles a great warrior, they have not given him the right to hurl insults (1.290-91).

Achilles himself makes his attitude quite clear during the embassy's visit in Book Nine. Immediately after Odysseus has conveyed to him the generous terms of Agamemnon's peace offer, he responds with these frank words:

> I owe you a straight answer, as to how
> I see this thing, and how it is to end.
> No need to sit with me like mourning doves
> making your gentle noise by turns. I hate
> as I hate Hell's own gate that man who hides
> one thought within him while he speaks another.
> What I shall say is what I see and think.
> (9.309-14)[3]

The fault that Achilles hates, saying one thing while thinking another, is of course the very opposite of candor and spontaneity; the liar does not display what is in his mind but rather disguises it. For the liar, speech is not Folly's bright mirror but the means par excellence to keep one's thoughts in the dark. Yet we should note that in this case at least Odysseus's intentions are not only honorable but also transparent. Like his companions on the embassy, he wishes to effect a reconciliation between Agamemnon and Achilles, and he makes no secret of that. It is because he wishes so ardently for that reconciliation that he omits from his report of Agamemnon's offer, which is otherwise repeated in all its detail (9.122-57 and 9.264-99, mutatis mutandis), the part that Achilles would have found unpalatable:

> Let him be subdued!
> Lord Death indeed is deaf to appeal, implacable;
> of all gods therefore he is most abhorrent
> to mortal men. So let Akhilleus bow to me,
> considering that I hold higher rank
> and claim the precedence of age.
> (9.158-61)

For those tough words, Odysseus substitutes the following pitch:

> Even if you abhor
> the son of Atreus all the more bitterly,
> with all his gifts, take pity on the rest,
> all the old army, worn to rags in battle.
> These will honor you as gods are honored!
> And ah, for these, what glory you may win!
> Think: Hektor is your man this time: being crazed
> with ruinous pride, believing there's no fighter
> equal to him among those that our ships
> brought here by sea, he'll put himself in range.
> (9.300-306)

As always, Odysseus is very shrewd. Instead of offering Achilles an exhortation to obedience, he appeals to his feelings for his fellow warriors, to his obsessive desire for honor and glory, and to his competitive instincts, his insistence upon being Number One.

Unfortunately, the tactic does not work, perhaps because it is so very transparent. Achilles is not obtuse, and he knows that something is wrong with Odysseus's report. He guesses wrong about what Odysseus has done, accusing him of not being transparent when Odysseus is in fact not being forthcoming, is simply withholding an important part of Agamemnon's message and replacing it with something he thinks Achilles would rather hear. Of course, Achilles' error is minor and is perhaps best defined as misplaced emphasis, not only because withholding can be described as lack of candor, but also because everyone knows that the Odyssean personality is willing and able to violate the canon of transparency when that seems necessary. Ultimately, therefore, Achilles is perfectly correct: Achilles is the opposite of the man who glories in the nighttime sneak-attack on the Trojan camp (Book Ten, the *Doloneia*) and who stoops to use the poisoned arrows mentioned by Athena, his equally non-transparent alter-ego, in this instance disguised as Mentes (*Od.* 1.260-64). No, Achilles is once and for all the ideal straight shooter and straight talker. The kind of hero exalted in the *Iliad* purports to be a man of action, not a man of words (listen to Hector at *Il.* 20.366-68, 20.430-37, and 22.279-82; there is also Aeneas at *Il.* 20.244-58), but when he does use words, he remains absolutely faithful to the canons of transparency and fullness. He makes every effort to say what he means.

It is worth taking a leap across the centuries to the hero whose *kleos aphiton* is celebrated not by Homer but by Plato. Socrates, well-known for his obstinate insistence on speaking the truth, recognized his kinship with the great hero of the *Iliad*. In answer to those who would reproach him for putting his life in danger by such behavior, Socrates speaks as follows:

> On your view the heroes who died at Troy would be poor creatures, especially the son of Thetis. . . . he made light of his death and danger, being much more afraid of an ignoble life and of failing to avenge his friends. . . . The truth of the matter is this, gentlemen. Where a man has once taken his stand, either because it seems best to him or in obedience to his orders, there I believe he is bound to remain and face the danger, taking no account of death or anything else before dishonor.[4]

There it is: death before dishonor, standing up for what you believe, maintaining one's position at all costs, that stubborn, almost pigheaded insistence on never letting up, never softening your position, never giving any quarter to your unfortunate opponents. The best of the Achaeans and the best of the Athenians are two of a kind!

III

The *Odyssey*, on the other hand, is at one with its protagonist in consistently sliding off course, consistently denying the value of candor and spontaneity, emphasizing in their place the non-transparent face of language and the uses of withholding the truth.[5] The much-discussed Cyclops episode will have to do its duty once again, since it offers a splendid example of my point. That episode, as we all know, is replete with deception. Consider, for example, Odysseus's passing out of the cave hidden under the ram's belly. It is marked throughout by insincerity. Odysseus ignores the urgings of his men, who wish to steal some cheeses and run, then to come back later to drive out the lambs and kids; he insists that they wait and try to talk the Cyclops, whom he imagines he can cast for the role of sucker, out of some gifts, relying on good old *xeniē*, one of the greatest ruses of the confidence-man (*Od.* 9.224-30).[6] When the Cyclops finally returns to his cave, Odysseus confronts him with a failed masterpiece of the swindler's art:

> We are from Troy, Akhaians, blown off course
> by shifting gales on the Great South Sea;
> homeward bound, but taking routes and ways
> uncommon; so the will of Zeus would have it.
> We served under Agamemnon, son of Atreus —
> the whole world knows what city
> he laid waste, what armies he destroyed.
> It was our luck to come here; here we stand,
> beholden for your help, or any gifts
> you give—as custom is to honor strangers.
> We would entreat you, great Sir, have a care
> for the gods' courtesy: Zeus will avenge
> the unoffending guest.
>
> (9.259-71)

That seems a fairly windy speech for Odysseus. His initial tactic is to impress Polyphemus with some pretentious name-dropping, the kind of thing that the gullible always go for. Thus we get mention of Troy, of Agamemnon and the great fame he and his comrades won there, and of Zeus himself, who is supposed to have arranged our hero's visit to the Cyclops's island. Roughly midway through this valiant effort, however, we can see Odysseus changing course as he sees from the expression on the Cyclops's face that the intended victim is not buying his line. Thus at line 266 Odysseus makes a sudden detour into religious discourse, turning himself and his men from big-time conquering heroes to abject suppliants whose safety now depends upon the protection of Zeus: "*Zeus*—you know the one I mean, Zeus *xeinios*, the one who takes care of strangers and suppliants" (270-71). For all his fear, however, Odysseus is still after those gifts, and it is to the Cyclops's credit that at least he does not fall for this.

The episode is also marked by the withholding of truth. In that splendid pun on *outis* Odysseus both withholds his real name and gives the Cyclops a name that is not transparent, that is at odds with reality, that does not correspond with his real name. In the end, as the reaction of his fellow Cyclopes forces Polyphemus to see, *outis* is no name at all. This brilliant piece of linguistic chicanery, worked out at the expense of the unfortunate and ignorant Cyclops, who insists upon taking people at their word, is a perfect encapsulation of the Odyssean attitude toward language, truth, and reality. But we should not be too eager to condemn our wily hero as a villain and a cad. Even though we must constantly recall that it is Odysseus who is telling this story and thus manipulating us as well as the Cyclops,[7] we must also remember that in situations such as the one Odysseus describes here, telling the truth, the whole truth, and nothing but the truth, remaining faithful to our beloved ideals of candor and spontaneity, would lead to unmitigated disaster. Indeed, the Cyclops episode contains an extremely telling point against spontaneity. After the Cyclops has made his first meal of Odysseus's companions, washing down their flesh and bone with plenty of good fresh milk, he falls asleep right in front of the terrified survivors. Odysseus tells us what happened next:

> My heart beat high now at the chance of action,
> and drawing the sharp sword from my hip I went
> along his flank to stab him where the midriff
> holds the liver. I had touched the spot
> when sudden fear stayed me: if I killed him
> we perished there as well, for we could never
> move his ponderous doorway slab aside.
> So we were left to groan and wait for morning.
> (9.298-306)

The sudden fear that prevents the murder of the Cyclops is prompted by a truly inspired "second thought" and by typically Odyssean presence of mind. Where most people, Achilles included, would have killed the sleeping giant in a burst of unrestrained spontaneity, Odysseus hangs on grimly, waiting for the main chance, as always. Where we would have perished, gasping for our last breath and lamenting our lack of forethought (much as Achilles bemoans his inability to foresee the arranged death of Patroclus), Odysseus remains alive to pursue his homeward journey.

Returning to the question of candor, to the matter of Odysseus revealing his name when he is asked for it, we should remember that in the end he does indeed give that name to Polyphemus, using the full-dress version.

> Kyklops,
> if ever mortal man inquire
> how you were put to shame and blinded, tell him
> Odysseus, raider of cities, took your eye:
> Laertes' son, whose home's on Ithaka!
> (9.502-5)

That extremely rare example of Odyssean "full disclosure," uttered at an equally rare moment when our calculating hero gives way to passion, proves catastrophic for Odysseus and his men, for it allows the wounded Cyclops to identify his tormentor to Poseidon, who consequently undertakes the hounding of Odysseus. We must conclude, then, that in the *Odyssey* candor and spontaneity are not highly valued as tools for survival.

Language as a disguising medium is vitally important to Odysseus throughout his travels, but it is no less important after he returns to Ithaca, a place now dominated by the dangerous suitors and their allies. Here, once again, telling the unvarnished truth would have been foolhardy and suicidal. The suitor Leokritos puts the matter quite well in Book Two, as Telemachus is preparing to go in search of news about his father. The loyal Mentor has attempted to arouse the Ithacans against the suitors, and Leokritos replies on their behalf:

> Suppose Odysseus himself indeed
> came in and found the suitors at his table:
> he might be hot to drive them out. What then?
> Never would he enjoy his wife again—
> the wife who loves him well; he'd only bring down
> abject death upon himself against those odds.
> (2.246-51)

Odysseus simply cannot confront the suitors directly. Where Penelope once wove her web to deceive and delay the suitors, Odysseus must now weave his own web of falsehood and lies. Where Penelope's clever strategem ultimately

failed, Odysseus must develop a winning strategy, for he is playing for infinitely higher stakes—his life. Like the contest Odysseus the bowman announces at the opening of Book Twenty-Two, and unlike the aristocratic contests of the Phaeacians in Book Eight or the decadent dalliance of the suitors with the bow in Book Twenty-One, Odysseus's game upon his return to Ithaca is from start to finish an *aethlos* replete with *atē*, one in which the losers will really and truly be blown away.[8] If Odysseus loses this one, he will die. It is therefore no accident that Books 13-21 display the art of deception raised to its highest level, and Aristotle has good reason to say that "Homer more than any other has taught the rest of us the art of framing lies in the right way."[9]

IV

It is not difficult to see that Odysseus must lie if he is to survive. Yet there is much more to it than that. Odysseus is frequently described as an "outsider," and this notion proves crucial for understanding the relation of language, truth, and reality in the *Odyssey*. The plain fact is that it is far easier for insiders to tell the truth and to be believed than it is for outsiders to do so.

When it is a matter of simple statements of fact, such as my earlier example "It's raining outside," verification presents no difficulties. Whether or not the person who makes such a statement is known or unknown to us, all we have to do is look outdoors to determine whether he is telling the truth. But reflect on the fact that if we know and trust the person who makes such a statement, if he is an insider, we do not take the trouble to check; we take him at his word. This becomes especially significant in matters where verification is not so easy, where we are compelled to take people at their word.

In such cases we take a much closer look at that word, and the criterion for judging truth or falsehood is almost exclusively coherence. We tend not to believe people who rave or babble. The form of presentation becomes crucial. If something sounds true, we tend to take it as true. This may seem quite simple and obvious, but it is not, for the canons of coherence and thus of verisimilitude are not universal but culture-bound. What seems raving or babbling in one culture may make perfect sense in another; what makes sense, what hangs together, what seems true can vary from culture to culture.[10] It follows that outsiders will have difficulty getting believed in such situations, for they will have difficulty producing the required sort of coherence. This explains why the slick lawyer can victimize the innocent, truthful, but uneducated witness. Such a witness cannot meet the required standard of coherence. It also lies behind Pilate's refusal to discuss the truth with Jesus. The jaded Roman is very well aware that the canons of truth for himself and the strange foreigner standing before him are so different

that such a discussion would either be impossible or too dangerous to risk, since it would gravely threaten the accepted cultural norms and divisions.

Not only do the words uttered by outsiders fail to cohere in the proper way; often those outsiders are not permitted to cohere, since they are not part of the group whose norms they must satisfy. Thus outsiders often have great difficulty being taken seriously, getting others to examine the truth-value of their words. Take, for example, Thersites (*Il.* 2.211-77), the quintessential outsider despised by both the aristocrats and the troops. What he says to Agamemnon in the presence of the Achaeans is not very different from what Achilles says in Book One and is considerably less insulting; furthermore, his statements can be defended as being quite true. Yet he is beaten and ridiculed. He is an outsider; he is not part of the leadership. Thus he has no right to speak the truth, and his words will not be heeded. The opposite is true for Achilles, the very incarnation of the hero, the indispensible warrior, the ideal Achaean. He can say anything he pleases, since his place is at the very center of the group, whose embodiment he is. Insiders like Achilles and Agamemnon can trade the most vicious insults and accusations while still remaining accepted members of the group; in Book Nineteen, just a few days after their acrimonious quarrel, they are reconciled and all seems forgotten. The insider can say almost anything, the outsider almost nothing.

Odysseus is always aware of this restriction; thus he always plans his utterances with extreme care, knowing that his only chance lies in producing a coherence so superior that it compels others to give him a hearing. His carefully contrived, intricate webs, those marvelous Odyssean texts—remember that our word *text* comes from the Latin word for weaving—ensnare Nausicaa, inducing her to provide him with the all-important entrée to the people who count in Phaeacia; they buy him the time he needs to size up the situation at Ithaca; they give him the opportunity to set the unfortunate suitors up for the kill; and, most important for my purposes here, they create and maintain among the Phaeacians that feeling of kinship with Odysseus that guarantees their promise to deliver him safely home to Ithaca. Enthralled by Odysseus's tales and obviously hoping for more, Alcinous reiterates his promise to arrange our hero's conveyance.

> Our friend
> longs to put out for home, but let him be
> content to rest here one more day, until
> I see all gifts bestowed. And every man
> will take thought for his launching and his voyage,
> I most of all, for I am master here.
> (11.350-53)[11]

V

Lucian, who claims for himself the ability to relate intricate and well-embroidered lies in a plausible manner, informs us that our "guide and instructor" in this sort of thing is Homer's Odysseus, who bamboozled the simple-minded and gullible Phaeacians with those tall tales of his.[12] But perhaps Lucian has not given sufficient credit to Alcinous and his court. Arete's interruption of Odysseus's narrative (11.336-41) makes it clear to her fellow countrymen that they ought to judge their guest favorably on the basis of his narrative. Speaking to Odysseus a few lines later, Alcinous himself expands upon this notion:

> As to that, one word, Odysseus:
> from all we see, we take you for no swindler—
> though the dark earth be patient of so many,
> scattered everywhere, baiting their traps with lies
> of old times and of places no one knows.
> You speak with art, but your intent is honest.
> The Argive troubles, and your own troubles,
> you told as a poet would, a man who knows the world.
> (11.363-69)

Alcinous emphasizes the coherence, the verisimilitude, of Odysseus's narrative, not its correspondence to reality. He and his fellow countrymen "believe" Odysseus because his narrative displays *morphē*, the kind of coherence that demonstrates that he—like them—is a man of good sense, *phrenes esthlai* (11.367), the phrase Fitzgerald renders as "honest intent." The compelling quality of Odysseus's narrative, which does after all deal with events that most sophisticated audiences would take as "fictional," binds him closely to the Phaeacians and at the same time serves to distinguish him and his gracious hosts from that large, amorphous, and anonymous mass of outsiders. It is *they*, *not us*, who tell lies; it is *they* who are not to be trusted. The compelling coherence of Odysseus's narrative, its *morphē*, accomplishes the essential metamorphosis, transforming him from outsider to insider, moving him right to the center of the group.

Alcinous's comparison of Odysseus to an epic poet reveals even greater insight into the matter. Odysseus is believable and trustworthy because his narrative coheres in a way that satisfies its audience's expectations and canons of coherence, i.e., because it is art, superior fiction, successful *poiēsis*. The Phaeacians come to accept Odysseus because they recognize him as a great artist, a world-class storyteller. It is his marvelous artistic ability as a spinner of words that enables him to survive his journey home from Troy and the harrowing time with the arrogant suitors, to overcome the dangers posed by alien cultures and by decadence within his own culture. In this sense, paradoxically, Odysseus

stands as a powerful proof that great art transcends cultural boundaries and is in some sense universal.

One final paradox. In the end, Odysseus's narrative, for all its marvelous coherence, artifice, and art, turns out to be gorgeously transparent as well. With an important qualification: it displays not so much the truth of what is related but the character of its immensely skillful narrator. Thus Aristotle is right once again. The *Odyssey* is indeed a story about character (*Poetics* 1459b12-16). Upon reflection, then, Odysseus's words do indeed become the least deceptive mirror of his mind, an extremely accurate reflection of what he is. But *what is he*? What do we mean by character, mind, or the self? For Aristotle character is something we create for ourselves by the choices we make throughout our lives. Contemporary thinkers have also given much attention to the question of character and the self. In the opening pages of his *Mythologiques*, Lévi-Strauss states that "unlike philosophical reflection, which claims to go back to its own source, the reflections we are dealing with here concern rays whose only source is hypothetical," that emanate from a virtual focal point (*un foyer virtuel*).[13] After observing that the structural method employed by Lévi-Strauss "aims at preventing this virtual focus from being made into a *real* source of light,"[14] Paul de Man extends Lévi-Strauss's analogy to literature and its "source":

> The "virtual focus" is, strictly speaking, a nothing, but its nothingness concerns us very little, since a mere act of reason suffices to give it a mode of being that leaves the rational order unchallenged. The same is not true of the imaginary source of fiction. Here the human self has experienced the void within itself and the invented fiction, far from filling the void, asserts itself as pure nothingness, *our* nothingness stated and restated by a subject that is the agent of its own instability.[15]

We need not go quite so far in the direction of nihilism to agree that what we call the self or our character is truly something we create for ourselves. It is an invention, a fiction, a *poiēsis*. Despite the many constraints placed upon us by nature and human society, we are very much our own creations, and what we make of ourselves as human beings is up to us. Indeed, nature, of which we are a part and whose processes are part of us, challenges us to become fully ourselves. If the *Odyssey* is a poem that satisfies our hunger for both coherence and transparency, a poem that is rich in truth, that truth remains the truth of fiction. And although fiction too has its constraints, its truth remains the truth that saved Odysseus and the only truth that can set us free.

Notes:

1. *Praise of Folly*, trans. B. Radice (Harmondsworth: Penguin Books, 1971), 1 and 5, pp. 63 and 67.

I am grateful to audiences at Brown University, the University of California, Santa Cruz, the University of Southern California, and the University of California, San Diego, for their helpful remarks on earlier versions of this paper.

2. I am indebted here to some unpublished remarks of Richard Rorty, made in response to a paper of mine delivered at Princeton University on April 10, 1976.
3. Translations of Homer are by Robert Fitzgerald: *Iliad* (Garden City: Anchor/Doubleday, 1974); *Odyssey* (Garden City: Anchor/Doubleday, 1961). Readers are, of course, strongly urged to examine Homer's Greek.
4. *Apology* 28b9-d9, trans. H. Tredennick (Harmondsworth: Penguin Books, 1969). To those who would argue that *Il.* 1.188-222, where Athena intervenes to prevent Achilles from drawing his sword against Agamemnon, suggest that Achilles may not be quite so spontaneous as I have maintained here, it may be replied that the need for Athena to intervene serves to demonstrate my point. Without her intervention, Achilles' inability to curb his "natural impulses" would have led to disaster.
5. See Ann L. T. Bergren, "Odyssean Temporality: Many (Re)Turns," in Carl A. Rubino and Cynthia W. Shelmerdine, eds., *Approaches to Homer* (Austin: University of Texas Press, 1983), pp. 38-73. There are, of course, many other parts of the *Odyssey* that could have served my analysis here. Book Fourteen, for example, shows Odysseus constructing an elaborate skein of falsehoods to get the desired results from Eumaeus, who, unlike Polyphemus, turns out to be no fool. Especially interesting here are lines 156-57, where Odysseus, about to tell his false story, echoes the very words of Achilles at *Il.* 9.312-13: "I hate as I hate Hell's own gate," he says, "that weakness that makes a poor man into a flatterer."
6. See Norman Austin, "Odysseus and the Cyclops: Who is Who," in Rubino and Shelmerdine (above, note 5), pp. 3-37.
7. *Ibid.*
8. See E. D. Francis, "Virtue, Folly, and Greek Etymology," in Rubino and Shelmerdine (above, note 5), pp. 74-121. See also William F. Wyatt, Jr., "Homeric 'ATH," *AJP* 103 (1982), 247-76.
9. *Poetics* 1460a19-20, trans. I. Bywater (Oxford: Clarendon Press, 1924).
10. See John Peradotto, "*Odyssey* 8.564-571: Verisimilitude, Narrative Analysis, and Bricolage," *Texas Studies in Literature and Language* 15 (1974), 803-32. See also his *Man in the Middle Voice: Name and Narration in the Odyssey* (Princeton: Princeton University Press, 1990).
11. See *Od.* 7.308-28 and 8.536-86. See also Peradotto (above, note 10), Bergren (above, note 5), and James M. Redfield, "The Economic Man," in Rubino and Shelmerdine (above, note 5), pp. 218-47.

12. *True Story* 1.2-3. See *Il.* 2.484-92 and Hesiod, *Theogony* 26-28. See also Pietro Pucci, *Hesiod and the Language of Poetry* (Baltimore: The Johns Hopkins University Press, 1979) and "The Language of the Muses," in Wendell M. Aycock and Theodore M. Klein, eds., *Classical Mythology in Twentieth Century Thought and Literature = Proceedings of the Comparative Literature Symposium*, XI (Lubbock: Texas Tech Press, 1980), pp. 163-86.
13. *The Raw and the Cooked*, which is vol. II of *Introduction to a Science of Mythology*, I, trans. J. and D. Weightman (New York: Harper and Row, 1975), p. 5.
14. *Blindness and Insight: Essays in the Rhetoric of Contemporary Criticism* (New York: Oxford University Press, 1971; reprinted, Minneapolis: University of Minnesota Press, 1983), p. 11.
15. *Ibid.*, p. 19. In a book that points us towards Derrida and "post-structuralism," the Sartrean echoes of such statements come as a surprise.

What is a Book?

Eva T. H. Brann

It is our tradition that the first lecture of the year should be dedicated to our freshmen. They have newly joined a community whose program of learning centers on the scheduled reading of a pre-set list of books and on the twice-weekly discussion that takes place in the seminar. They have come to us chiefly because that is what we do here. I have read each of their applications, and I can vouch for the fact.

Then what sort of impression will I be making on them if I ask an absurd question like "What is a book?"—and ask it in public? Don't we, known to the world as a Great Books College, know what a book is, even what a great book is?

I was friends once with a little boy (we are still friends, but he is a big strapping lawyer now, a public defender, no less) who told me he was making a rocket to send into space. Because proper adults like to annoy little children I asked him "What do you mean, space?" He looked at me in big-eyed amazement (he was used to grown-ups having more answers than he had questions) and said incredulously: "Don't you even know what space is—you know, *outer* space?" So don't I even know what a book is, a *great* book?

Well, I do and I don't. I don't say that to create confusion. Contrary to what some of your upper-class colleagues may try to tell you, confusion is *not* our business, but rather clarification, partly because clear-headedness is one condition of open-mindedness. A slowly developing, limited clarity of mind does seem to me to be our business.

Nor, for that matter, is reading books our primary activity, or even thinking about them. Our primary purpose is, in my opinion (I say "in my opinion" because not everyone agrees) to *reflect*, which means literally "to bend (our thought) back"—on itself and on ourselves. When you leave us in four years you may well have chosen a career. The word "career" is related to "car" and connotes

---

This lecture, delivered in September, 1991, was the Dean's opening lecture of the academic year.

taking off on a track, straight, speedy—and upward, we hope. The years immediately before you are, on the contrary, years of leisure, of slow progress in a rising circle (such as is called a spiral), of reviewing your points of origin—one of which is yourself—from different vantage points. It is significant that we never ask you to "take a course" but always to "be in a tutorial." We invite you not to course along a set track of organized knowledge, but to be active in a community protective of learning wherever it goes, even when it goes in circles. That, incidentally, is why your teachers are not called professors but tutors. These are both Latin words. A professor is "one who speaks out assertively in public," but a tutor is "one who safeguards and watches" over things. A tutorial, then, is a safe haven for learning with fifteen or so members, one of whom is the special guardian of learning.

It is often said that there is yet another presence in the tutorial or the seminar, the one that brings us together, the true guide and teacher, namely the great book being studied. We often say that, and I think it is true. Not for nothing does our college seal display seven books.

Let me take out a minute here for an interjection. You may be surprised by my vehemence, but I want to warn you of what seems to me a very bad blight. Countries, congregations, colleges—all have their verities, truths they keep telling about themselves. When a truth has been told and heard very often, it loses, by a very natural process, its sap and its savor. Then there is a type of person who concludes that because the truth has lost its savor for them, it is unsavory, and they affect ennui and disdain toward it. They think the truth is flat and falsified when it is their souls that have gone flaccid. I am not speaking of those who vigorously oppose the truthfulness of the truth; they are the tonic that keeps truths healthy. I am speaking of people—ourselves in certain moods—who let the soul slip from the words they speak and then blame the words. The cure for this condition seems to be to cultivate the habit of reverence. By reverence I here mean the disposition to grant at least provisional significance to words and sayings from which the meaning seems for the moment to have withdrawn and to have become remote. The next step is then the effort to recover that meaning.

In that spirit I say that great books *are* our teachers, and this lecture is one attempt to recall the meaning of this truism.

There is a man—you will spend much of your year arguing with him—who intimates that it is foolish to talk about the quality and purpose of a thing before asking what it is. In the manner of this man Socrates let me then put my title question, to which we all know some obvious answers that turn increasingly unobvious under reflection: What is a book?

Books as Bodies

A book appears to be, to begin with, a bodily thing. In an old college film, which I hope you get to see sometime, there is a dorm sequence of a student shouting upstairs to her friend: "Throw me down my *Iliad*." Down comes the *Iliad*. Or it might have been her *Paradise Lost*, I've forgotten. Is the *Iliad* then a thing subject to gravity, gaining distance as the square of the time? Is it *her Iliad* or Homer's *Iliad* or Achilles' *Iliad*? Where is the place of this *Iliad*? In a book, in the rhapsode's literal line-by-line memory, in the student's impressionistic memory, nowhere, in Troy, in Hades? I say Hades, because as you will soon read in the *Odyssey*, it is to the blood-drained invisible underworld that you must go to learn the great tales on which poetry works. Again, when is a book's time of being? When the story called the Iliad happened, in the twelfth century B.C.? When it was told, in the eighth century B.C.? When an Athenian commission first produced an official written version, in the sixth century B.C.? Or whenever Johnnies read their seminar in the twentieth century, or, for that matter, in 1808 when the freshmen of this college (then called the "noviate class") first read Homer—in Greek? (T. F. Tilghman, *The Early History of St. John's College in Annapolis*, p. 36.) Or whenever Homer's poem is at work influencing lives, as the vision of Achilles once, in the fourth century B.C., drove Alexander the Great to the deeds that made him so?

Or is it whenever the *Iliad* stands on a shelf waiting to be opened? In that most thought-provoking of children's books, Michael Ende's *Neverending Story*, the boy Sebastian, about to open the magical book he has stolen, says to himself:

> I would like to know what actually goes on in a book as long as it's closed. . . . One has to read it to experience it, that's clear. But it's already there beforehand. I would like to know, how?

These are tricky perplexities that push themselves forward when you approach this book-thing with questions such as Whose possession? In what place? At what time? Let me nonetheless stick for a while with the crudest set of solutions, those that take a book as a physical object.

Paul Scott, the author of the *Raj Quartet*, the work I think of as the most considerable novel of the time between the Second World War and our present, was much impressed by the following prosaic account of what it is to be a book:

> A small hard rectangular object, whose pages are bound along one edge into fixed covers and numbered consecutively.
>
> (*On Writing and the Novel*, p. 211, quoting Bergonzi)

As I flesh out this bare-bones definition of a bound paper book, do, please, compare what it means to read such a book with the unrolling of a papyrus scroll on the one hand, and the scrolling of a computer display on the other.

Books, says the passage, are small and hard, which means they are safely carried hither and thither and can even be thrown down the stairwell. As sophomores you will read Augustine's autobiography, in which he confesses first his life of sin and finally his conversion to faith. He tells how his landlord let him use the garden of the house Augustine was renting, and there he and his friend one day carried a book, or *codex*, as Augustine calls it, which means a set of wooden tablets, a sort of proto-book. It was not just any book, but a *codex apostoli*. It was a part of the *The Book, to biblion*, in English, the Bible. (Let me take out a minute to say that the Greek word *biblion* means a thing made of *biblos*, which is the word for papyrus, while papyrus itself comes into English as paper.)

Augustine was, at that time, in great agony over his sins and his doubts. Suddenly, in the garden, he heard a child's voice saying over and over in a sing-song tone: "*Tolle lege, tolle lege*," "Take it and read it, take it and read it." So he took the book and read what he found, and at that moment it was, as he says in his beautiful Latin:

> Quasi luce securitas infusa cordi mea, omnes dubitationes tenebrae diffugerunt. (*Confessions* VIII, 12)

"As if a light of assurance had poured into my heart, all the shadows of doubt fled away." If the book had not been in the garden there might have been no voice, or if there had been a voice, Augustine would not have heeded it, or if he had heeded it, he would have had nothing to take up and read. And he would have missed the moment that made him, his conversion. It is because books are portable that the ready reader can sometimes come on the word fitly spoken

To descend from the solemn to the ordinary: the bound paper book can be carried about more conveniently than most other containers of valuables except wallets—in a pocket, handgrip, or knapsack, to bed, bathroom, beach, or waiting room. How many of you spent months in high school carrying around a book until the time was ripe, and you took it and read it?

Besides being small and hard, the book of the definition is normally rectangular. Its rectangularity betokens the self-effacement of the visible layout of the text. Let me explain.

There is something called pattern poetry. An example is the Mouse's sad Tale in *Alice in Wonderland*, which looks like what it sounds like, a tail. You see here only the tail end of the tale:

'Such a
trial
dear sir,
With no
jury or
judge,
would be
wasting
our breath.'
'I'll be
judge,
I'll be
jury,'
Said
cunning
old Fury:
'I'll try
the whole
cause,
and
condemn
you
to
death.'

This sort of innocent typographical game, a kind of printed calligraphy, has, I should tell you, recently been used as a jumping-off place for grave reflections on the latest of intellectual revolutions. A famous French intellectual has said:

> Thus the calligram aspires playfully to efface the oldest oppositions of our alphabetical civilization: to show and to name; to shape and to say; to reproduce and to articulate; to imitate and to signify; to look and to read.
> (Michel Foucault, *This is Not a Pipe*, p. 21)

The traditional book, it is true, suppresses the looking in favor of the reading. It is rectangular because it breaks the narrative into optically convenient and semantically arbitrary stacks of lines. In some traditions these are arranged horizontally, in some, like the Chinese and Japanese, vertically; some are read from left to right, and some like Hebrew, from right to left so that the book begins where an English book ends. The earliest Greek writing is sometimes read back and forth, which is called *boustrophedon*, meaning ox-turning, as in plowing. I

am sure that all these conventions carry significance with them. For instance, the fact that Western readers' eyes survey the page in the plane of the horizon back and forth, while Oriental readers move their head vertically as though nodding—there must be some meaning in that.

Next, Scott's quotation says that the pages of a book are numbered consecutively. This pagination is, so to speak, the street address of the narrative. That address system makes it possible to revisit locations in a book. For worthy books are meant to be read in a double way, so that the first reading is somehow already the second reading. One way is to follow the stacks of lines and the sequence of pages straight through. Of course, while we are barging on with the inexorable clock—say it is 6:30 on a seminar night—the time of the narrative warps back and forth. For example, the centerpiece of the *Odyssey*, Books IX through XII, where Odysseus turns poet and tells of the ten years when he seemed lost to the world, is all flashback; it is only with Book XIII that we return to the present of the story.

But there is a second way to scramble the time of reading. It is made possible by the fact that a book is a bound stack of numbered pages. That means you can put slips of paper or fingers in the pages you have passed. As a visible, weighty, numbered thing, a book is all there at once, and we can treat all its tale or argument as simultaneously accessible.

Literary theorists have in fact invented a word for the writing that fully exploits the non-linear property of the book format. They call it "spatial" prose. (J. Frank in *Spatial Form in Narrative*, 1977.) It is spatial because it depends on continual back-reference, on always holding the text present, as if it were all there simultaneously just as space is—while time is always either gone or yet to come. It seems to me that the physical format of the bound book invites the writer to make spatialist demands on the reader. That does not mean that authors who may not have been writers at all, like Homer, or who wrote in scrolls that show only one place at a time, did not compose spatially. All great texts demand continual back-reference, but book texts make it mechanically easier. The theorists I have mentioned thought that the so-called "Modernist" writers, above all James Joyce, were peculiarly spatial, but you will see that every Platonic dialogue (for example) requires you to refer back all the time—a demand which you cannot, of course, fully meet until you have studied your way through the text once. We might conjecture, on the other hand, that a people that values time and its sacred cyclical order might keep its scripture in scrolls, as do the Jews their Torah.

The other place where events that are strung out in time are kept simultaneous is memory. A book is indeed a memory analogue: an external memory. This seems to me a wonderful thing.

The last dialogue and the last book you will read this year—in May when all reading is a drag—is called the *Phaedrus*. In it Socrates will claim that any

written text is pernicious because it can't answer back when questioned, and also because it acts as a pharmaceutical pacifier: It keeps you passively reminded and prevents you from being actively mindful (275). Readers of dialogues might point out to Socrates that the texts in which he appears do answer back, and readers of books might say that a paginated book does keep us actively casting back and forth.

Finally, a book, in Paul Scott's quotation, is bound along one edge between fixed covers. This physical fact means that books have spines; they are upright vertebrates. They normally stand on shelves next to one another. (I can't help telling you that in my private library at home only the books I respect stand up; the indifferent ones have to lie prone on the top shelves.) Only the spine shows, so a book is known by its backbone. That fact in turn means that a book is identified by author and title. In antiquity titles were evidently not always given by the author. Who knows whether Homer would have called his song about the wrath of Achilles after the name of Hector's city? Or what Aristotle would have called his lectures on being, later called by the ambiguous title *Metaphysics*, meaning either "the book that follows the *Physics*" or "the subject matter beyond nature"?

In modern times, on the other hand, titles are almost always carefully crafted announcements of the author's intention, and they are the first thing to think about as soon as you have finished the book once. Some titles reveal, some retract, some complement the contents of the book. For example, as a rising senior you will spend a glorious summer with Tolstoy's fourteen-hundred-page novel entitled *War and Peace*, of which 1340 pages are devoted to war and sixty to peace. What did Tolstoy mean by his title? Did he mean that those last pages of peaceful family life, the so-called First Epilogue, have as much gravity, as much cosmic significance, as all the turmoil that went before? I think so, but you may find that your seminar divides around that question, which is made more interesting by the fact that the Russian word for "peace" also means "world."

*

That concludes my unpacking of the definition of a book as a small hard rectangular object, made of paginated leaves bound along one edge. So far the answer to the question "What is a book?" has amounted to this: A book is the kind of artifact we call a medium. It is made to mediate a text to us.

In his *Physics* Aristotle will observe a fundamental twofoldness in the human world. Some things in it grow, or at least move by themselves, and these, he says, are natures. Other things are made by a human being out of some material according to a plan, and these we call artifacts. (I might say, incidentally, that one of our modern perplexities is our capability for turning natures into artifacts.) Now to figure out what a natural being or what a given artifact truly is—a house, a marble image, a tool—is complicated enough. But to think about the kind of

artifact called a medium requires special subtlety. For a medium is meant to come between the receiver and the source in such a way as to convey a message while being itself overlooked. Telescopes, telephones, television sets, whose names mean respectively things for scanning objects that are far off, for hearing voices that are far off, for seeing images produced far off, are not the focus of the user's interest when they are transmitting, and go dead or empty when not in use. But as the book is not a medium that plays or replays some performance far off in space or even in time, so it is not like a tape or disk that goes inactive after it has been played. Sebastian's question—What goes on inside a book when it is closed?—is not purely phantastic; even an unread book seems to have a sort of secret vitality just because its text is all latent significance—imageless squiggles. I ask the seniors if there has been a single seminar book in your three years here that would gain very much from being illustrated. The solemn last paragraph of Hegel's *Phenomenology of the Spirit* speaks of Spirit in time as presenting a languidly moving "gallery of pictures." Ask yourselves, when you come to it, whether you would wish someone to take Hegel at his word and produce an illustrated *Phenomenology*.

In the image-smashing disturbances of late antiquity, the icono-clastic opposition to depictions of God and Christ was countered by the notion of a "Pauper's Bible." Religious images, the iconophiles argued, are scripture for the illiterate. Perhaps they should have conceded that for those who can "take up and read" the written word is antagonistic to depiction, because pictures fix the narrative in its flow, specify its intimations to the imagination, and rivet the eye on the page. In short, illustrations turn a book from a medium into a presentation. They capture the imagination and thereby drain the word.

I have only mentioned book illustrations to set off the peculiar wonder of the verbal book as a medium-body, a medium that harbors its content without presenting it—I mean, as I said before, that we are not caught by images, and we read right past the print presented on the page. To me there is something elusive and mysterious about this unpresented yet ever-present life of books which makes the question what happens within them permissible and plausible. Of course, I am too much of a coward seriously to propose that arguments go on developing and characters go on conversing all over my library—and yet! And yet—they do seem to have done just that from reading to reading. The mystery here is that of mental life encased in a hard rectangular object.

A book, then, is a peculiar kind of medium, a medium not unlike a vessel of the spirit—that is what makes it understandable that people might kiss a book or swear on it or carry it always along. Yet although it is a peculiar medium, it is still a medium. Being a medium means that it mediates between senders and receivers, in this case, between the writers and the readers. Let me start with the readers, since that is what we are—and there are, thank heaven, more of us than of them.

Readers as God-Parents

I call this section of the lecture "Readers as God-Parents" because I will later liken writers to parents. A god-parent is the sponsor of a rite of spiritual regeneration; a reader sponsors the rebirth of the book-body's soul. The first step toward this revival is, of course, to turn the spatially all-present text back into real, live, passing time.

There are many perplexities and complications in the conscious reading of a book. The study of these problems is called "hermeneutics," named after Hermes, the god of messages. It seems to me far more important to read books than to engage in this study. I once offered a preceptorial on it which left us all unclear whether anyone could in fact read a book. Let me proceed on the sensible hypothesis that books are readable.

Then the first practical observation to be made is that there are different kinds of books, and they should be read differently. It would be plain eccentric not to quote from Frances Bacon's essay "Of Studies" here:

> Some Books are to be tasted, others to be swallowed, and some few to be chewed and digested; That is, some Books are to be read only in parts; others to be read but not curiously, and some few to be read wholly, and with diligence and attention.

Let me give you examples. Some people will be outraged right away and that was part of my pleasure in writing this lecture.

1. Mysteries. When you are about to invest a portion of your life in reading one—on the hypothesis that you will get to be eighty and that it takes three hours to read the mystery, that would be .0000042 of your life, but these things add up—do the following. Turn to the denouement and find out whodunnit. If you still care to read the book, start at the beginning. Otherwise, forget it.

2. Scholarship. Read the preface. If it is clear what will be proved and why, go on. Otherwise, forget it.

3. Minor novels. Apply the *sortes Biblicae*, an old mode of reading. *Sortes* is a Latin word for "chances." "The chance of the Bible" is exactly what Augustine was bidden to take when he was told to "take up and read." If the passages you find at random are entrancing, begin at the beginning. Otherwise, forget it.

Notice that these kinds of books are not the ones you will read for seminar, though it is true that one of the novels on our list is, among other things, also a murder mystery—Dostoyevsky's *Brothers Karamazov*; however, that is scarcely a minor novel.

Notice also that the books we do read for seminar all have one thing in common: None that I can think of has an index, at least not one made by the author. Why do great books have no index? Because you are bidden to read them

whole and as a whole at least once, from their pregnant beginning to their well-delivered end. Because you are not to look up subjects that interest you or follow through topics you specialize in. Because understanding is not an encapsulated result but a way, the way through the book. Because a book of stature, be it philosophy or fiction, is not about—round-and-about—something, but is *the* presentation of a matter most adequate to it in the author's judgment. (I might say, incidentally, that Hegel gives similar reasons for arguing, in the long and famous Preface to his *Phenomenology*, that prefaces are impossible.)

When you are reading a book for the second time you may want to do the following to the text, provided you own the book bodily. You may want to take a marker of the color children use when they draw the sun, and highlight passages. How is highlighting compatible with reading the whole well? It seems to me to be permissible for four reasons:

1. Some writers occasionally stop to put their whole meaning in a *nutshell*. Whether you have come on such a nugget, you cannot really know until you have read the whole book. If you mark a nutshell for yourself, then, when you come on it again, you can crack it and re-develop for yourself the argument, which is all there, *in nuce*. An example of this sort of nutshell is Kant's epigram, in the *Critique of Pure Reason* (B75): "Thoughts without content are empty; intuitions without concepts are blind." Whenever you recall that sentence, you can recover the whole *Critique* for yourself.

2. Often you will notice, some time into the book, that a *motif* keeps recurring and that you must at some point collect its incidences and figure out its meaning. An example is the returning vision of large blueness in *War and Peace*.

3. A third case of occurrences inviting highlighting is the *significant mystery*. A book will say things that you don't yet understand, that are pregnant enigmas for you, and that you want to talk about in seminar. One example for me is the second half of the fourth line of the *Iliad*:

... Διὸς δ' ἐτελείετο βουλή
... *Dios d' eteleieto boulē*
... and the plan of Zeus was fulfilled.

What plan? When fulfilled? That is the puzzle dominating the epic.

4. Last among the occasions for highlighting that I can think of are the passages of *personal import*—those that penetrate to your heart and you want never to lose, the ones you keep to yourself or show to close friends. I won't give an example now, but I will tell some, if asked.

Let me say it again: Highlighting, whether in sky-blue ink or sun-yellow marker, is for the second reading. I think that though the books may look defaced when you are finished, the writers are rejoicing in your reading of them, be they still on earth or in either of the other places. That brings me to the author.

Writers as Parents

We speak of "Homer's gods." "Homer's gods," we might say, "are frivolous creatures—just compare the lightness of their invulnerable immortality to the gravity of his death-expectant heroes." Homer's gods, Homer's heroes, Homer's *Iliad*: How is the author related to the book? *Auctor* means literally "progenitor, parent." And like a child, the book goes forth into the world, sometimes falling into hands the parent may shudder at.

But like a good parent, the author knew that this would happen and gave the offspring what it needs in order to be on its own: self-sufficiency, a certain repleteness. Here is what I mean.

In the course of the year you will be writing at least five small papers in your language tutorial and several more in your other classes. On some of these you will have conferences with your tutors. Your tutor will ask: "What are you saying here, what did you have in mind?" And you will tell all the things that you thought but failed to say in your paper. That is what distinguishes an accomplished writer: the ability to make the book independent, to turn it loose, to find a way to get the reader to ask not "What was the author thinking?" but "What is the book saying?" Annie Dillard, a very fine contemporary writer, who has thought much about composing a book, says in her book *The Writing Life* (p. 4): "Process is nothing; erase your tracks." She is attacking a current school of writing teachers who exalt process over product, writing exercises over perfected expression. Here you will almost never be asked to write merely for the sake of writing. We take a leaf, so to speak, from the books of real writers and ask you to think about a matter that really does make you think, and then to say on paper, as perfectly as possible, what you have thought. That is what the authors of our books have done—they have thought and found the right words. "Thought" is a noun, but it is also the past form of the verb "to think." Thought is thinking that has been done, thinking perfected. So Annie Dillard should not have said "Erase your tracks" but "Absorb your tracks; make your product point the reader to your tracks." For writing is thinking frozen in its tracks by speech, speech crystallized so as to make the point of origin visible within. A book is a translucent product containing its process. That is how Homer's *Iliad* can become our *Iliad*. It preserves within it the world that Homer meant with each word he said. (Incidentally, it is because we want you to write papers somewhat as real writers write them—first think, then say—that you will have such a devilish hard time writing, but at least the task will dignify rather than degrade you.)

So no more than we ask your parents what they meant by producing you, need we ask what Homer meant in his epics. The offspring in both cases are amply provided to speak for themselves. Or rather, you are amply provided to read it. Even the *Iliad*, the one that is not a material thing to own, is yours, the reader's.

You bring it to life, melt its frozen state. Again I quote from Bacon, this time from his *Advancement of Learning* (Bk.I):

> But the images of men's wits and knowledges remain in books, exempted from the wrong of time, and capable of perpetual renovation. Neither are they fitly to be called images, because they generate still, and cast their seed in the minds of others, provoking and causing infinite actions and opinions in succeeding ages: so that, if the invention of the ship was thought so noble, which carrieth riches and commodities from place to place, and consociateth the most remote regions in participation of their fruits, how much more are letters to be magnified, which, as ships, pass through the vast sea of time, and make ages so distant to participate of the wisdom, illuminations, and inventions the one of the other?

Now the notion that *you* bring the book to life seems to be close to the claim of a currently very busy school of thought: that the reader is the author. But what I mean is in fact a world apart from the notion that you may tease the text into any meaning your brilliant wit devises.

On the contrary: it is the book's will, not yours, that is to be done. There is a book by Joseph Conrad (whose novella "The Heart of Darkness," to my mind the greatest short story of our century, you will read as seniors). The book is called *The Mirror of the Sea.* It tells of the difference between going to sea in sailing vessels and on steamboats. A steamboat plows through the water; it conquers the ocean. Its progress is mechanical, though its route is willful. The sail ship on the other hand respects its element and responds to its every indication. From departure to landfall, it is engaged in a fierce and loving battle with the sea. Its course is contingent and its arrival uncertain. A great writer, to extend Bacon's nautical figure, provides a book that is more like a sea for sailing than an ocean for steaming.

And that brings me to my final reflection, on the greatness of books. Before I finish let me say that I know full well that I have been speaking in similes and metaphors and that I expect to be held to a more literal account in the question period.

Greatness in Books

St. John's is known as a "Great Books College," and, as I said early on, I know from your applications that you came because you want to read books that raise you rather than demean you.

Mr. Curtis Wilson, a retired tutor who was twice dean of the college, used to wish that we would stop talking of "the hundred great books," and instead speak of "some very good books." I agree with "some," but, though I see his point—

greatness is not a very sensible sort of classification—I can't quite agree to dropping "great," not at this moment in America.

To begin with, I want to prognosticate that the more books you read, the more you will find that there *is* greatness, that it is an emergent quality that some books just have, and that each reading confirms. The community that has in common the reading of these books and the acknowledgment of their greatness is bound by two powerful bonds: first, the fact of a shared judgment, competently come by and continually confirmed, and second the fact of a practical willingness to revere what is high, a willingness expressed in a daily schedule of study.

Some of you may know that nowadays these are fighting words in academe. How, they ask, can any communal judgment have been fairly arrived at when we are a people divided by a diversity of hopelessly opposed interests—who are playing, as they say, a zero sum game? How, again, can any one human expression be higher than another, when every text is a testimonial to some human condition, and the tradition of chosen books merely represents the winner?

In other words, the present trend is to want democracy without commonality and equality without excellence. To me the wish seems outrageous—and again I am yours to question in the question period—but doubly outrageous because it contains the seed of a fair dream. The fair dream is that the human being in us should be universally respected and that all our works should be universally appreciated. The forced version is that we should live in a society in which, without admitting a common humanity, every last group discrimination based on extrinsic properties, such as race and sex, is outlawed, while all intellectual discriminations based on intrinsic criteria of quality are proscribed as having ulterior motives.

Let me offer two rules for choosing books to read that take some account of what is fair in the desire for universal appreciation.

Here is Law One of the Discriminating Reader: Devour everything you can swallow with relish, indiscriminately. Test texts as I recommended before, but give everything a try. There are dozens of wonderful genres and fine works within them: science fiction, utopias, and fantasy; children's, ethnic, and women's literature; westerns, adventures, and thrillers; book reviews, political flyers, and literary criticism. (If you come to see me in my office I will be delighted to tell you my loves and hates in each category. I also know a lot of rather pleasing trash, including comic books.)

Law Two of the Discriminating Reader then goes as follows: Read only a limited number of books, perhaps a hundred and twenty or so; discriminate severely; while attending to a text allow a little voice on the sidelines to say: "This is great and worthy of my best time; that is not."

Far from being at odds, Law One and Law Two are complementary. Obeying the first shows you to be a lover of books, a bibliophile; obeying the second makes you a student, a reader.

But how will you judge that a book is great? I had a teacher, forty years ago in Brooklyn College, who said that some books made her hair stand on end, and they were great. Much as I like this criterion, which, I have since discovered, was not original with her, I see some flaws in it. But there are many other diagnostic marks, signs and indices of greatness, that people have listed, and we might talk about them in the question period. Let me add to that multitude one observation of my own, which does not so much pick out greatness as distinguish greatness in works of fiction from greatness in works of reflection:

In a great epic or drama or novel, if any word were different, the tale told would be other than it is; in a great philosophical treatise, every sentence could be paraphrased and the truth told would be the same.

To make myself clearer, let me take the counter-example, that of lesser books. A mediocre novel tells a tale coarse-meshed enough, with characters gross-grained enough, to be equally presentable in language only approximately equivalent. A mediocre piece of philosophy, on the other hand, can't be told to its advantage in other terms: It is all idiosyncratic jargon and its ordinary language paraphrase puts it to shame. That is why trying to say exactly what the book says in another way is the useful initial exercise in seminar when the work is philosophical, but is love's labor lost when the work is fictional. And that is why it is usually harder to read a novel than it is to read a philosophical text—except perhaps when that text is also a drama. I am referring to the Platonic dialogues, the first of which you will be reading right after Homer. They are the hardest of all, since they are philosophical plays—you will decide whether tragedy or comedy.

Let me end, if not conclude. My question for myself and for you was: "What is a Book?" My answer was: It is a special kind of body made to be inhabited by a curious kind of frozen but fusible soul, a body fit to mediate its own peculiar life. It has a parent, the author, who equips it with all it needs to live on its own, and god-parents, readers, who can revivify its printed life. The books that realize their book nature most perfectly may be called "great," and it is from these that we at St. John's College have selected a number for study. Both because it is a strenuous and wearing business to be constantly in their presence, and for reasons of inclusive humanity, it is good to read many lesser books as well.

Have I answered the question I posed for us? Not remotely. Let us try again in the question period.

Poems

J.H. Beall

Sandra Hoben

Kemmer Anderson

J.H. Beall is a tutor at St. John's College, Annapolis, and an astrophysicist. His latest published collection of poems is entitled *Hickey, the Days*. Poems of Sandra Hoben, a graduate of the College, have appeared in the *Partisan Review* and the *Antioch Review*. Her volume of poetry, *Snow Flower*, was published by the Westigan Press. Kemmer Anderson, an alumnus of the Graduate Institute, teaches English in Chattanooga.

Foxfire

J.H. Beall

A foxfire scattering of stars
and a lone planet hang low
over the northeast, where the wind
comes from, down like a coyote,
nose down, its warm tongue licking

a chill out of the earth, the dawn's
chill of stiff awakenings after
the night's dancers, their supple sweat,
the way it loves its body, then sinks
into salt rest. The earth last

night sank so, its blush and rose
twilight giving up the light so well
that those in their houses walked out
into the roads and yards, arms folded
their skins flushed with an excitement

drawn of this pink light, and discussed
it—not the coyote's old trail
they stood on, but the huge
evanescent cathedral of light
that reared before them like a great

dancer, his headdress streaming
its eagle wildness, while they talked
their awe of its wordless beauty.
The subtle dawn, alone with foxfire,
now reclaims. It licks the wounds

that words have made in us, that we
in that first step down made of ourselves.

Wendy

J.H. Beall

At first each day she expected
at the window a faint tapping
not unlike the new bud tossed
in a spring breeze, its index

prodding quizzically the cold, flat pane.
But different—night again
come alive. Then the years
like a mist obscuring

softened the longing pain, and she
wondered that it might have been
a dream. Her husband held her
and she woke as a princess

whose cheeks like pink blossoms
held a living promise: children
and her father's house. Where
after many years the tapping

came again late one night,
and perhaps because of the nature
of love or the imperative of dreaming
instead of rebuke she opened wide

the windows and gave her children to it.

Republic
(for William)

J.H. Beall

I recall you when the sentences
were not of silence, your eloquence
not a single stare. How one time
in a fit of humor at the pique

of an adversary, aside in my
cramped kitchen, you confided,
"I think I'm beginning to get through
to him." Always. The apologist

for another's ignorance. In the way
you smile now, you apologize
for my own at not being able
to enter into that world

where the mind flickers shapes
into existence, a dark theater
not unlike a cave you try
to climb out of, we try

to climb out of. What I want
to say is theater, really. Yearning
for a time when my life played
grandly upon the stage, the wall

of your memory—Nicholson
on that promontory for example
kneeling before the old, silent
father's fierce, blank gaze

(the hardest piece being the future)
tears on his face as he says
"auspicious beginnings—we both know
I was never really that good, anyway."

Leda and the Swan

Sandra Hoben

It so happens
she wasn't totally
averse to the situation.

She was walking along
the marshy edge of the pond, glad
to be away from the company of men.

She noticed things
that had escaped her for months—
the ducks with brown and white feathers,
uniform as men in tweed suits,
and others, a flash of emeralds
at the throat. She'd been told
that with birds, the male
wears rouge and diamonds.

How do they do it?
A pillow fight when the seam suddenly rips,
and at other times more like fish,
swimming past each other, never touching.

Engrossed as she was
she didn't notice
the swan gliding up to her,
his wings held heart-shaped,
one foot cocked over his back,
the other a rudder.

Then he stood in front of her,
stuck out his belly, and flapping his wings,
drew himself up to his full bird height—
a bit ridiculous.

But he had no choice.

She lifted her arms, and he was in them.

Like the Inhabitants of Plato's Cave

Sandra Hoben

Like the inhabitants of Plato's cave,
my son, in his third month,
is more interested in the shadow
of his hands than in his hands themselves.
He holds them up to the light
and watches the dark shapes form
as creatures march to join him,
facing forward, some whirling and horned.

Once, in the beginning, my milk gave out
and he cried all day for the pain and injustice
I'd brought him to. That night
I curled around him, he turned
inside me once again, and we rocked.
The lamp burned behind us:
two Indonesian puppets cast on the wall.

But today when he cries, I give the pram a shake
and flip through his birth pictures,
those images of him naked and streaked
with my blood, throwing open his arms
and all his fingers against the harsh light.
It calms me—and therefore him—
to try to make out the figures:
the nurse's arm like a branch shading him,
the doctor's face as the scale tips.
Then they stapled shut the slash
across my belly with little hinges,
holding the rest of the dark inside me.

Parallel Lines

Sandra Hoben

By definition, parallel lines never meet. This fact makes it possible for bird cages to exist, and jails of all sorts, railroad tracks, picture frames, director's chairs. And we can walk to the store and back, water the garden, watch the shadows lengthen on the lawn.

But parallel lines meet at infinity, which makes it possible to get to Chicago, build fires, tame animals, and we have eggbeaters, hammocks, the hulls of ships. We can tune banjos, swim, read books more than once; folk dances can be passed down, and rings.

If parallel lines meet at infinity, it is also true they never meet; conversely, if they do not meet at infinity, it is also not true they never meet. And so we are lonely and confused, our dreams have coins in them, our pets die. There are eclipses, earthquakes, falling stars. And although we can see the spiral within shells and the delicate double circle within flowers, we will never understand what we already know, and, even if we did, there would be nothing we could do about it.

The Iliad of Assateague Island

Kemmer Anderson

Fog dissolves the form of horse into sand
and night at Assateague Island, but I
still hear the sound of snort and stomp on land.

Waves of hoofbeats trample around my eye
steering chariots through the press of shields
as I sleep by the beached black ships from Crete.

Drugged with a vision of Mount Ida's fields,
a warrior calls for immediate retreat:
I am sick of words, tactics, and command.

The olive boughs of home brush through my dreams
with a need to reap what I understand:
nothing in war is ever as it seems.

Re-Reading: A Note on Ibsen and Wagner

Elliott Zuckerman

Recently, in preparation for a seminar, I returned to *The Wild Duck*, a play that I last read and discussed almost forty years ago. At that time, my Cambridge tutor was an Ibsenite, and in his presence we subscribed to the view that Ibsen was a dramatist of the highest rank—a view expressed during the same era by Una Ellis-Fermor in the introduction to her translations for Penguin, where we can still read, mentioned as a matter of course, that Ibsen was one of the five greatest playwrights in history. The others, I suppose we can rightly assume, were the Greek tragedians and Shakespeare, and about them almost everyone will agree. But these days there seems to be doubt about Ibsen as the fitting fifth. At St. John's College he has been only an intermittent visitor to the reading list, whereas Racine and Molière are central in the language tutorial. My candidate for the fifth position would be Molière, if only in order to have a representative of Comedy—not the Shakespearian romance but the unalloyed comedy that is rarer and harder to invent. But even where Ibsen is accepted into the Pantheon, be it of five, six, or seven, he is the only one there who is in danger of being considered old-fashioned. There is some significance in the fact that the great playwright who is fading also happens to be the most recent.

My tutor had written a book about Ibsen's dramatic technique.* The thesis was simple: that in order to get at the full meaning of Ibsen's dramas one had to attend carefully to the stage directions. The characters are presented "not only through the dialogue but also through the suggestiveness of visual details contained in his visually important stage-directions, which so many producers have perverted . . . always to a play's detriment" (p. 11). That Ibsen attached prime importance to the visual and directorial details is persistently documented, not only in the texts themselves but in Ibsen's instructions to the producers of the early productions and, above all, in the many drafts of the plays, where one

* John Northam, *Ibsen's Dramatic Method: A Study of the Prose Dramas*. London: Faber and Faber, 1953.

can trace the evolution of those details. He was scrupulously attentive to such matters as the placement of the white shawl in *Rosmersholm*, and there is much to be learned from how Hedda Gabler wears her hair.

Such attention to the telling detail that is simultaneously realistic and symbolic seems to me to be Wagnerian. It was Wagner, after all, whom Nietzsche called the supreme miniaturist. Given the size and length of the music-dramas, Nietzsche probably intended to sound paradoxical. But seldom did Wagner allow the sweep to override the momentary. I have in mind not Wagner's peremptory stage-directions so much as that staple of his technique which is their aural counterpart, the famous *leitmotivs*, the musical phrases that underline and interpret the action at every moment. At their most obvious they have been accused of merely duplicating what we already know—as in the well-known remark, variously attributed, about idiots presenting their calling-cards in person. At their most subtly effective they themselves constitute the true action and the most interesting ideas—as in the third act of *Tristan*, where it is in the orchestral interweaving of the significant musical phrases that we apprehend the remarkably descriptive self-analysis of the delirious lover. Each wave of the ever-deepening self-discovery is set in motion by a fragment of the Old Tune, played originally on the English Horn. Overtly the Tune is a mournful reminder that Isolde's ship has not yet been sighted; but it is also used as a melismatic bridge to Tristan's childhood, in the contemplation of which he realizes that the brewer of the love-potion was none other than himself.

I wanted Ibsen's visual details to work as well as Wagner's musical details do when they are at their best—to seem natural, as they do for Tristan and for his blood-brother Amfortas, and not mechanical, as they often are for the Gods of *Rheingold* and even for the ordinary people in *Meistersinger*, that most breathtakingly complex but also most factitious (and least funny) of great operatic comedies. Both playwright and music-dramatist had something like a "system" for putting together works that could sustain a long evening (or many long evenings), and systems are more likely to reveal a mechanical than an organic configuration.

What seemed to me to be the weakness of *The Wild Duck* was the obtrusiveness of its central symbol, the bird itself. There is something arbitrary in furnishing the Ekdal household with a loft containing a wounded duck, along with other birds and some rabbits, in an artificial forest of old Christmas trees. Yet once the image is embraced—with, perhaps, the palliative observation that the play is foreshadowing the final plays, which are explicitly and therefore acceptably "poetic"—all the other images fit neatly into the central pattern. The duck, that is to say, is uncomfortably necessary for the motion of the machine.

Among the other images, I am thinking particularly of one that I had not properly attended to in my original reading. In the first act—the only act that does not take place in the Ekdals' apartment—the comfortably furnished study

of the Werle household is provided with "lighted lamps with green shades, giving a subdued light." In contrast we can see further within to another room, "large and handsome," which is "brilliantly lighted with lamps and branching candlesticks."

The green lampshades are missing from the first draft. When Ibsen added that important detail, he was visually reinforcing the connection between the first act and the last. Once we know the play and start it again, attentive to the greenish light and noticing which of the actions and conversations go on in its shadow, we realize that the pervading color of the Ekdal loft is being significantly adumbrated from the outset. By the end of the play we have connected the first-act green with both the green of the "forest" in which old Ekdal goes hunting—the abode of the wild duck—and the green of the sea, from the depths of which the duck had once been rescued. Since almost every other image of the play is related to that forest and that sea, the green shade can prompt any number of green thoughts. In the setting of Act Five, for example, the "wet snow [that] lies upon the large panes of the sloping roof-window" places the Ekdal studio plainly under water. Both the framing acts are imaginatively submarine, and the complex interrelatedness of the images does much to justify the arbitrariness of the central symbol.

My sense of that arbitrariness was anyway diminished by the seminar discussion. In response to the opening question—which was really an expression of my doubts about the duck—someone reminded me that *within* the play (so to speak) it was, after all, the Ekdals themselves who had invented their unlikely attic; the loft and its inhabitants were projections of the Ekdals' strange and self-deceptive psyches. The symbol seems less mechanical when one emphasizes not the playwright's imposition into the play but the apt inventiveness of the characters within it.

There is an intellectual pleasure, albeit a minor one, in tracing and contemplating these visual and verbal interconnections. And because there are few productions of Ibsen these days, and they seldom, so far as I know, follow his visual prescriptions, we can only indulge in the pleasure by imagining his settings while reading, helped, perhaps, by my Tutor's handbook. Those who enjoy the musical equivalent of such tracing and contemplating are by no means similarly deprived. In addition to the music, available with an ease that the builder of Bayreuth could scarcely have foreseen, the Wagnerian decades left us a legacy of handbooks and commentaries, all for the delight of those devotees whom Nietzsche ungenerously called Educated Philistines. To follow the mirrorings of the motives is dazzling, and one is overawed by an appreciation of the master's control of his system. Hence there is a danger. Seldom do such maps of interconnections encourage one to delve downward from the motives, even in such seminal places as the Prelude to the *Ring*, where the long-sustained major triad should lead to questions not only about the myth that follows but about the

nature of music itself. If the motion is merely lateral, one is condemned to the surface.

If the Ibsen industry had ever matched the Wagner industry, then by now the greens and the forests, the snows and the seas, the towers and the tarantellas, would be as thoroughly codified as the swords and the dragons, the Desire for Dominion and the Redemption through Love. But the visual and even the verbal are never so powerful as the musical, and Wagner knew what he was doing when, in his search for control of a vast audience, he enlisted the arsenal of tonal music. At first his talent for music seemed slim, but it was expanded to greatness by the demands of his genius. Had he been unable to commandeer the effectiveness still latent in the language of Beethoven (and of Chopin and Liszt), Wagner's genius would have been a great deal less than Ibsenian.

For decades the music-dramas have easily withstood the stylized productions that ignore the prescribed pictures, or place the drama within some entirely alien setting, usually to make a political point. Ibsen cannot survive comparable treatment, for the settings that carry the symbolic weight are the counterpart not of Wagner's settings but of his music. Ibsen in the Round is not the equivalent of a *Ring* enacted on discs and slabs; it is like Wagner reorchestrated or even reharmonized. And just as no director, however self-centered, is allowed to tamper with the *music* of Wagner—it is, indeed, held to be more inviolable than even Mozart's and Verdi's, where the separable numbers can be omitted or re-arranged—so no one ought to change the settings of Ibsen. Though he was deprived of their sunlight, Ibsen, like his contemporaries Monet and Cézanne, knew precisely where to place his colors.

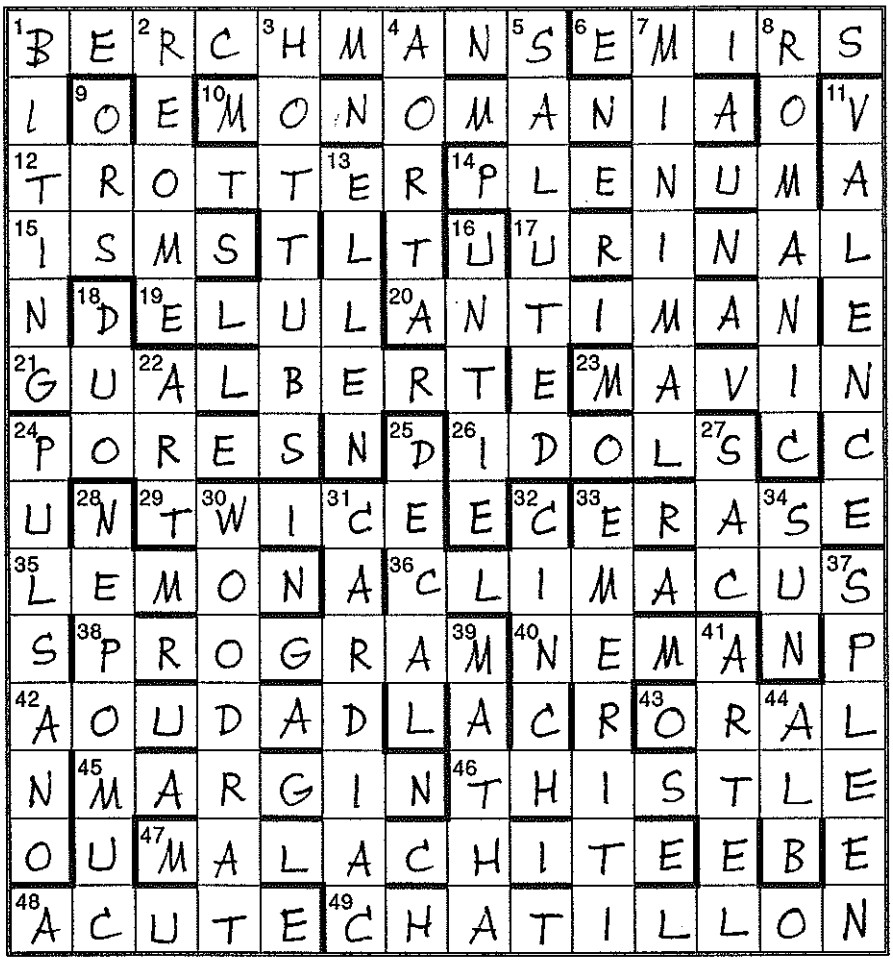
Results of St. John's Crossword Number Two

On the next page is the solution to Crossword Number Two, "Canonic Eponyms," by Trout. The nine clueless answers are various Saint Johns. The allusion for older alumni was to *Nine St. John's*, a dorm building that used to be on St. John's Street. The fourth of Charlotte Fletcher's essays was about the naming of the College. All the names are to be found in a Martyrology, along with the *Catholic Encyclopedia* and Butler's *Lives*.

There was only one submission, a correct solution solved jointly by Ann Martin and Meredith Gardner. For this prize the amount of the book token is increased to $50. Number Two was a hard one. Number Four, by a new compiler, Captain Easy, is easier. There is more cross-checking than is usual in such puzzles, but the Captain hopes you enjoy the clues.

The solution to Crossword Number Three will appear in the next issue, along with the announcement of the prize-winners.

Solution to Crossword Number Two



St. John's Crossword Number Four "Famous Pairs"

By CAPTAIN EASY

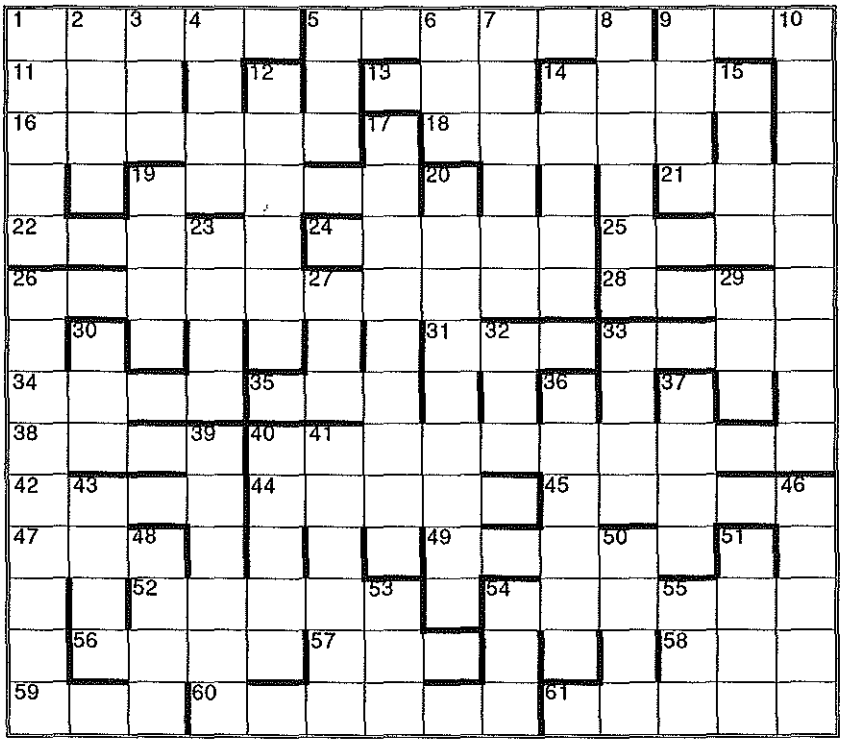
At the asterisked numbers, no clues are provided. The answers fall into five pairs that have something in common. The clued answers include nine (or ten) words that should be capitalized, a German word and a French word (both well known), and two common acronymic abbreviations. As usual, three book tokens of $35, redeemable at the College Bookstore, will be awarded to the first three correct solutions opened at random. The date for the opening is a month after the mailing of the issue.

Across

5. Shiner sounds earnest (6)
11. Tune arrangers have it (3)
13. Tutor, return the bow (3)
14. I can make a fuss when raised (4)
16. Listlessness is current, right-hand man comes back (6)
18. I sold broken images (5)
19. Ungulate takes a trip (5)
21. Lengthen likewise (3)
22. Study, replace the extremes with aural ease (5)
24. Revelation in one book or another (5)
25. Exploits in various essential ways (5)
31. Spout "Raven!" (3)
33. Is this how we now refer to connected twins? (4)
34. A band—Wagner's starts in the Rhine (4)
35. Perhaps Grecian, but run badly (3)
38. A bird—a loud bird (4)
40. Rising for a degree (10)
42. Whatever way you look at it, he's essential (4)
44. Set disheveled Cockney hairdo (5)
45. Follow the Development with some more capital (5)
47. The element is Back Bay (3)
52. In retrospect, let Siegfried display spirit (5)
54. Disconcertingly loud, the Spanish in the practise of swordplay (6)
56. Flyer in the afternoon (4)
57. St. John's College is not in this league (3)
58. One is confused for an eternity (3)
60. Sat on a mistuned Hammer-klavier, for example (6)

Down

2. Stock rush (4)
3. Lake loses energy, flows back in rage (3)
4. Pater, a movement in art (4)
5. A resort in southern Pennsylvania (3)
6. Louis, perhaps, or I? (3)
7. State missing a brave (6)
8. Leap through the stable tours oddly (6)
9. YY (a clever clue) (4)
10. Decline tax in No. 3, reversed (9)
12. Funny priest, most ready to eat (6)
14. A noble number (5)
15. Victory mirrored in Peking (4)
17. Take a walk at the Albert Hall? (9)
19. At first the unusual notes evoke a melody (4)
23. A sound *an sich* (4)
26. Me? Prof? Err? Confound it, I did! (9)
27. Ben sound like that woman (3)
29. Annoying horse (3)
30. Hope and Crosby went there in a trio (3)
32. Big Bird, headless author of Treatises is back (3)
33. Etta's London showplace (4)
36. The Persian Milhaud (6)
37. It's OK in the Savoy (4)
40. Seed begins growing, drops (5)
41. Start "Singing in the Rain" —it's sweet (6)
43. Can't see the color (4)
46. Emphatically, put down the cheap wine (British) (5)
48. Ballet painter is backward, incomplete, and elderly (4)
50. It can be square and lame (4)



Down *(continued)*

51. League of Nations, in a dumb location (4)
53. Tube, a southern source of power (3)
54. Genetic and misdirected (3)
55. Eighty yards of worsted pasture (3)