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Who is Michael Wo-Ling Ptah-Hotep Jerolomon?

Literary Interpretation as Thought Experiment

Among the many problems in literary scholarship, an institutional one stands out. During the recent decades, literary studies have been literally swamped with theories imported from a long range of disciplines – to the extent that in American context, courses are being taught under the naked headline of 'Theory'. This involves all brands of hermeneutics, structuralism, formalism, post-structuralism, critical theory, ecological criticism, gender-class-race, post-colonialism, social constructivism, new historicism, psychological theories and sociological doctrines of all kinds – plus the 'post' or 'neo' versions of all these – and many more. Potentially, this import of inspiration has – in lucky moments – seemed to make literary studies the very focus of the humanities where new syntheses could emerge and new understandings of the humanities at large find their place. But more often than not, the plethora of theories has given rise to bewilderment. And specific strategies have evolved to cope with the confusion. One is the internal splitting-up of literary studies into sub-branches where each scholar picks one theory and spends his time in happy isolation in his office, caring little about the equally narrow-minded research taking place in the neighboring offices. This Balkanization of literary studies, however, is nothing but the recipe for their dissolution as scientific endeavor. Another strategy is a little more promising: the supermarket-like idea that you pick your theory according to the text you tackle. In some cases, formal aspects of the text are intriguing, in other cases the text's embeddedness in social contexts, in still other, the thematic content – and so on. Still, this strategy has its drawbacks: the dissolution is only transported into the individual

scholars' head, if he does not undertake any reflection as to the interrelation of this optional menu of theories.

What is lacking is a precise idea of the very role played by theory in the interpretation of literary texts. In particular, any consciousness of the difference between *method* and *theory* is all but absent in the theoretical supermarket. Very often, the two words are used interchangeably, presupposing a very direct relation between theory and text, so that a theory should, in itself, contain a method for its being put to use. But this relation is *not* direct. For between text and theory comes method. Methodology in the scientific treatment of literary texts may encompass highly different procedures: research in readers' response, research into the life of the author, into the period, genre, institution, culture, or any other context of the text, undertaken with interpretative or statistical, a priori or empirical means. But one basic method is common to all the different schools and theories mentioned, a method so simple that it tends to be overlooked: that of *reading* and *interpreting* the literary text itself. It forms the core of all other methods used (and, in turn, in all theory application). This paper investigates this reading process as a special case of pragmatic epistemology as laid down in Peirce's semiotics. It is important to underline that this investigation is pre-theoretical in a precise sense of the word. It presupposes, that is true, certain theories of the process of gaining knowledge. But it does not presuppose any choice as to a preconceived theory of the nature of the literary text. Quite on the contrary, it tries to describe the place for such theories in the interpretation process.

Ab-De-In: The Three-Beat Motor of Investigation

As Peirce analyzes any process of interpretation in three interconnected phases determined by the three argument types abduction-deduction-induction, in that order, it comes as no surprise that literary interpretation may also be so analyzed. A more detailed investigation will show, however, certain particularities as to the structure of literary interpretation.

Peirce's pragmatic semiotics in its mature version involves, it is well known, three levels, with changing titles through the development of his thought. A common way of expressing them is the distinction between Speculative Grammar, Logic, and Methodeutic (cf. ch. 2-3). Logic is the study of truth-preserving inferences and arguments and their interrelation – not unlike our days' definition, but still covering argument types nowadays rarely counted as purely logical, so as for instance abduction. Speculative Grammar is sometimes called also semiotics or stecheiotic. It is the study of

the constituent signs of those arguments, in short, all instruments which may be used to express thoughts. Methodeutic, on the other side, is the study of how to combine arguments in order for knowledge to progress. In our day we would probably call it epistemology or, more pragmatically, heuristics. The picture is blurred, furthermore, by the fact that Peirce often calls the sum of all three Semiotics or Logic in a broad sense. The decisive point here, however, is that Peirce's logic and semiotics are conceived in close relation to an epistemology focusing upon the growth of knowledge (thus emphasizing the context of discovery rather than, or at least to the same extent as, the context of justification, to put in in Reichenbach's terminology). Van Heijenoort's and Hintikka's classical distinction between two lines in the development of logic is very apt here: on the one side we find logic-as-language (Frege-Russell-Quine), on the other logic-as-calculus (Boole-Peirce-Schröder).[i] Even if many of the core results of the two lines are the same (such as logic of relations, quantification, formal representation all having been invented independently by Frege and Peirce), the overall conception of the task of logic differ. In logic-as-language, logic is conceived as a formal language in which any possible claim can be expressed, and it thus covers the whole universe because it involves the very possibility of all what can be said. In logic-as-calculus, on the other hand, the emphasis is on the role of logic in the ongoing reasoning process – and logic is seen as problem-solving, pointing to a multiplicity of problems in different contexts and thus maintaining the intimate connection between logic and epistemology. Peirce clearly belongs to the latter tradition, and this is evident in his epistemology where the specific abduction-deduction-induction configuration of arguments expresses his pragmatic maxim as his fundamental requirement of sound investigation. Before turning to the details of the Abduction-Deduction-Induction reasoning cycle, let us look more closely on Peirce's original contribution in his doctrine of Abduction.

Abduction: Logic and Creative Perception

It is well known how Peirce adds to the traditional two forms of inference, Deduction and Induction, a third, Abduction.[ii] While deduction is a necessary inference, and induction a probable inference only, abduction is a merely possible inference. At a closer look, it is rather two aspects of what is traditionally seen as Induction which are now separated into Abduction and Induction, namely the proposal of a hypothesis and the empirical testing of it in a number of cases, respectively. The more precise determination of

abduction changes over Peirce's lifetime and is, as such, the subject of some controversy. Let us here run briefly through the most crucial among the different aspects of abduction.[iii] In ("Deduction, Induction, and Hypothesis", 1878, EPI, 188; 2.623), Peirce gives an early description of the character of the three types of inference, based on different configurations of the rule-case-result triad known from the ordinary syllogism (abduction appearing here under the name of "hypothesis"):

> DEDUCTION.
>
> Rule.--All the beans from this bag are white.
> Case.--These beans are from this bag.
> ∴. Result.--These beans are white.
>
> INDUCTION.
>
> Case.--These beans are from this bag.
> Result.--These beans are white.
> ∴. Rule.--All the beans from this bag are white
>
> HYPOTHESIS.
>
> Rule.--All the beans from this bag are white.
> Result.--These beans are white.
> ∴. Case.--These beans are from this bag.

Here, the conclusion to the abductive argument is a possible statement only: the white beans in the Result may, of course, stem from a lot of other possible sources. As Hoffmann (2002, 254) points out, Peirce's distinction between two premisses in Abduction (and Induction as well) is irrelevant, because they can be simply combined into one, and later on Peirce himself states that the premiss is always only one, however many parts it may be composed of or may be analyzable into. But the conclusion may have highly variable degrees of generality, and in some sense it is the very choice of Rule, more or less general, which forms the interesting part of abduction. Thus, the Case presented here as the conclusion is only reached on the basis of the selection of a Rule – among many possible – which gives the desired Result. Later Peirce tries to take this into account when he attempts to

formalize the logical form of abduction as follows (in his 1903 lectures on Pragmatism):

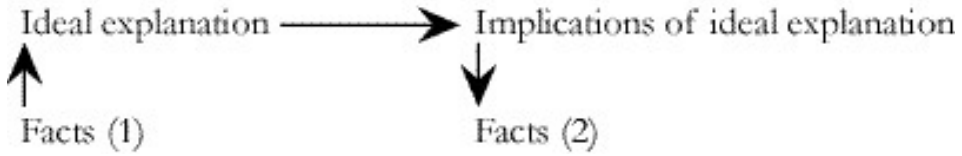
> Long before I first classed abduction as an inference it was recognized by logicians that the operation of adopting an explanatory hypothesis … which is just what abduction is … was subject to certain conditions. Namely, the hypothesis cannot be admitted, even as a hypothesis, unless it be supposed that it would account for the facts or some of them. The form of inference, therefore, is this:
>
> The surprising fact, C, is observed;
> But if A were true, C would be a matter of course,
> Hence, there is reason to suspect that A is true.
>
> Thus, A cannot be abductively inferred, or if you prefer the expression, cannot be abductively conjectured until its entire content is already present in the premiss, "If A were true, C would be a matter of course". ("Harvard Lectures on Pragmatism", 1903, EPII, 231; 5.189)

Here, the Result becomes the surprising fact C to be explained, and a Rule A to explain the fact is what is sought, and the conclusion is neither A nor C as explained by A (as was the case above), but the possibility of A being true (because it accounts for the appearance of C). But, as Peirce himself is the first to admit, the presence of A in both the premiss and the conclusion causes circularity problems. It implies that this logical form does not in any way account for the *process of adoption* of the hypothesis (but only for the *reason to believe* in the hypothesis, namely that it does in fact imply that fact). Hence, the very act of finding hypotheses is a prerequisite to the judging of them in this logical form – as well as the act of comparing the many possible different candidates for A. It is important here to underline that the amount of possible As are in all cases indefinite (in the above example, other possible As could be: 'these beans have been painted white by the experimenter', 'these beans have mutated into a white variant', 'these beans come from a bag of chalk', etc.), so a crucial task in the economy of investigation is to focus upon the candidates for A which are in some sense plausible, given the context.

Here, the role of abduction is to find a hypothesis to explain a surprising case – and the role of induction, conversely, becomes to test a hypothesis against facts in a quantitative investigation.[iv] While abduction

goes from case to rule, induction runs the opposite way from rule to cases. Between them, deduction intervenes in order to develop testable consequences of the hypothesis reached by abduction.

Abduction takes its point of departure in certain facts and proposes a (more) general, ideal explanation of these facts. Deduction investigates certain ideal consequences of this explanation. Induction, finally, takes us back from the ideal explanation and its consequences to facts, comparing explanation and further facts and judging the former on that basis:



The problem remains evident in the fact that while Peirce contends that there is substantially no information in the conclusion which was not already (albeit, maybe, implicitly) in the premisses, on the other hand he claims that Abduction is the only source for new information in the reasoning process (deduction and induction providing no new material). But hence, this innovation can not stem from the logical form of Abduction.

But if the logical form of abduction does not suffice to explain the adoption and selection of hypotheses, then how is that to be explained? Abduction is a 'qualified guess' – but what is it that qualifies the guess and makes it differ from mere fumbling in the dark or mere mechanical testing of an infinity of equally possible hypotheses? In the same manner as induction in which non-logical material is introduced in the empirical testing, abduction includes non-logical material in addition to its logical form. In both cases, the material stem from perception – but in what sense? As Hoffmann argues, this becomes possible to see if we draw a distinction between the logical form of abduction of the 1903 lectures on the one hand and the 'creative' act of perception of the surprising fact on the other, leading to the adoption of a hypothesis.

In the same lecture, Peirce discusses 'perceptual judgments' (given a red chair in the visual field, we may make the proposition 'the chair is red') as an extreme case of abduction. Perceptual judgments differ from prototypical abduction in one crucial aspect: they are not subject to conscious self-control and hence cannot seriously be doubted, even if they are not necessary deductions. As all matter in the conclusion of an argument must be contained in the premisses, perceptual judgments hence must rest upon logical matter being present *implicitly* (or, in the psychological

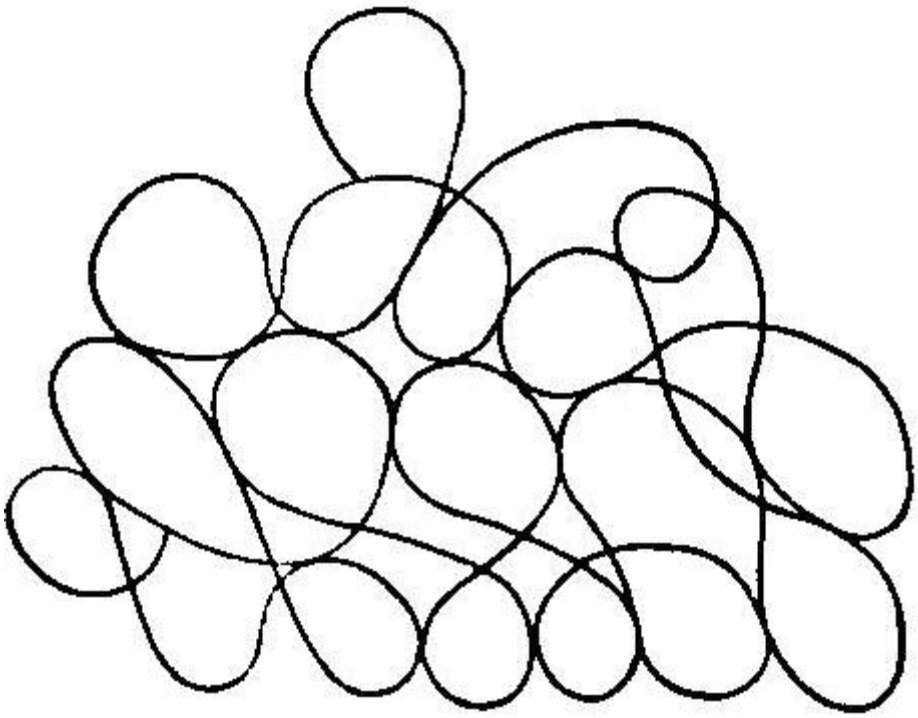
instantiation of the inference, in the mind outside the reach of consciousness) in the premisses:

> Ultimately therefore it must come from the uncontrolled part of the mind, because a series of controlled acts must have a first. But as to the logical form, it would be, at any rate, extremely difficult to dispose of it in the same way. An induction, for example, concludes a ratio of frequency; but there is nothing about any such ratio in the single instances on which it is based. Where do the conceptions of deductive necessity, of inductive probability, of abductive expectability come from? Where does the conception of inference itself come from? That is the only difficulty. But self-control is the character which distinguishes reasonings from the processes by which perceptual judgments are formed, and self-control of any kind is purely inhibitory. It originates nothing.
>
> Therefore it cannot be in the act of adoption of an inference, in the pronouncing of it to be reasonable, that the formal conceptions in question can first emerge. It must be in the first perceiving that so one might conceivably reason. And what is the nature of that? I see that I have instinctively described the phenomenon as a "perceiving." I do not wish to argue from words; but a word may furnish a valuable suggestion. What can our first acquaintance with an inference, when it is not yet adopted, be but a perception of the world of ideas? (ibid., EPII, 233; 5.194)

The creative side of abduction, hence, is a sort of *Wesensschau*, it is, as Hoffmann says, an act of "creative perception" (264). In an unused section of the lecture, Peirce continues:

> A mass of facts is before us. We go through them. We examine them. We find them a confused snarl, an impenetrable jungle. We are unable to hold them in our minds. We endeavor to set them down upon paper; but they seem to be so multiplex intricate that we can neither satisfy ourselves that what we have set down represents the facts, nor can we get any clear idea of what it is that we have set down. But suddenly, while we are probing over our digest of the facts and are endeavoring to set them into order, it occurs to us that if we were to assume something to be true that we do not know to be true, these facts would arrange themselves luminously. That is *abduction* … (EPII, 531)

The creative perception spontaneously organizes the facts in a pattern.[v] It is, in fact, a case of gestalt perception in which a certain interpretation is inherent in the very organization of the perception. Several such organizations may be possible (just like a finite number of measuring data may give rise to an infinity of different mathematical curves accounting for them) which are to the same degree motivated by the data implied. Peirce gives as an example a drawing by his father which may interchangeably be perceived as a wall of round stones or as the continuous drawing of one line – in fact, a classic example of the gestalt phenomenon of 'Kippfigur' well-known from Neckar's cube or Rubin's vase.



A wall of stones or one continuous line?

Peirce's doctrine on perceptual judgment from around the turn of the century thus unknowingly enters the contemporary debate as to the status of such gestalts. Both the Berliner and the Grazer gestaltists maintained, as against von Helmholtz's reference of such phenomena to *unbewußte Schlüße*, that no act of logical judgment was required to form such complexes. Peirce's doctrine of percepetual judgments might at a first glance seem to side with von Helmholtz. According to him, all thought and sensation are inferences, and it is impossible to reach pure sensory data before logical interpretation

of sensation. Any given perception is part of the ongoing perceptive process, resting on former perceptual judgments. Still, the detail of Peirce's doctrine rather seem to give him an intermediate position between von Helmholtz and the gestaltists: the inferences at stake in perceptual judgments are of a peculiar type – they take place without any control and are immediately given without any possibility of doubt; this spontaneous, in-built character takes them closer to the properties of the gestaltist account:

> That part of the conclusion which inserts the wholly new element can be separated from the rest with which it has no logical connection nor appearance of logical connection. The first emergence of this new element into consciousness must be regarded as a perceptive judgment. (EPII, 232; 5.192)

Here, it is connected to Peirce's crucial observation that abduction is the only inference that is able to introduce *new* matter in the investigation process – deduction only being able to flesh out what was implicit in some assumption, and induction merely being able to test the implications of a hypothesis against further facts. As this innovative character of abduction can not stem from its trivial logical form, it must stem from this character of "creative perception".[vi]

Still the problem remains, in the abductive reasoning, of how to select potentially fruitful hypothetical organizations of material without having to represent and go through the whole series of merely possible such hypotheses.[vii] Our discussion of literary interpretation may serve as a clue to this question.

Abduction-Deduction-Induction

In the methodology governing the ongoing investigation process, Abduction is connected to Deduction and Induction as phases to be processed in that order. Abduction gives rise to the formation of a hypothesis. Deduction now takes over and seeks out some more or less complicated necessary implications of that hypothesis. Abduction took us from facts to hypothesis, that is, from the empirical world to an ideal world. Deduction works in this ideal world – the only sphere where necessity is possible – and traces certain ideal consequences in the model so proposed. Induction takes these consequences and returns to the world of facts, seeking out further empirical data which may (or may not) corroborate these new consequences of the ideal model. If these data support these consequences, it is to be taken as a

sign that the hypothesis proposed has a certain probability of being true (of course, other possible hypotheses might have the same ideal consequences and hence have the same validity in the test). In both cases, the stage is set for a new abduction. If induction confirmed the hypothesis, abduction may now refine or sophisticate the hypotheses and allow for further deductions from the model to be tested. If induction falsified the hypothesis, abduction must start all over again by proposing a reformed or wholly new hypothesis – by the molding of it so as to avoid the pitfalls recorded in induction.

In this way, the Ab-De-In sequence forms a cycle to be run through over and over again – so to speak Peirce's version of Gadamer's well-known 'hermeneutic circle' in text interpretation. As implied by the Gadamerian term of 'Vorverständnis,' it is also the case in Peirce's circle that no pure pre-theoretical beginning is possible. The 'surprising fact' taken as first premiss in Abduction is, of course, only surprising as measured against certain expectations of a general, that is, theoretical kind, be they explicit or implicit. Peirce thus could be said to antedate Gadamer by more than half a century – but his account also adds a host of crucial details to the interpretative circle. Peirce's ab-de-in cycle is nothing special for science or literature, it is more or less subconsciously run through countless times every day in everyday reasoning where its single phases most often do not pose any serious problems which merit explicit reflection.

Having abducted a hypothesis, Deduction takes over. But what is Deduction supposed to do with the hypothesis? Peirce famously distinguishes between two types of Deduction, Corollarial and Theorematical, and it is due to Hintikka that the contemporary relevance of this distinction has been highlighted (cf. ch. 4). But even before we consider them, there is an often overlooked aspect of Deduction's relation to a Hypothesis: it does not follow by necessity *in which aspect* of the Hypothesis a Deduction should take its point of departure. Beginning with one proposition a whole series of different necessary inferences are possible, the more complicated the Hypothesis is, the more necessary consequences. If the abductive hypothesis claims, e.g., that the facts in question constitute a circle, then we might be interested in finding the necessary tangents or radii of that circle, or we may be interested in finding inscribed or circumscribed polygons of that circle… all of which possibilities follow by necessity from the concept circle. Deduction, in short, is no algorithm; rather, it is the condition of possibility for the construction of different algorithms, each of them consisting of different series of necessary steps. Thus, even in the beginning of Deduction, something like an Abduction in the ideal realm must take place: in which direction do we want to test the hypotheses?

Which aspects of it would we prefer to take as basis for consequences to be tested?

Deduction deals with ideal stuff and thus always has a more or less explicit mathematical character – and in short, undertaking a mathematical proof, we most often have an idea of the theorem we seek a proof of, so we select implications of our hypothesis which in some way seem similar to or oriented in the direction of what we intend to prove. This, Peirce claims, may be undertaken in two different manners: Corollarial and Theorematical. The former sets up the whole of the hypothesis, maybe in a drawing or maybe by a synthesizing gaze on all components of the hypothesis – and then the conclusion is directly read off of the hypothesis as a whole. The latter is more complicated. It requires the addition of new material – construction lines of Euclidean geometry is Peirce's prototypical example – and on the basis of this construction some manipulation or experiment with the hypothesis-plus-construction is undertaken. Very often, the intriguing or challenging part of the proof is the abduction allowing to find the right constructive additions to the hypothesis. This idea sets Peirce apart from the algorithmic or formalist ideals in mathematics where intuition should be bracketed and mere symbol manipulation take over – and, on the other hand, approaches him to a Kantian view of mathematics where construction is a necessary part of mathematical proofs. This 'theorematic' part of deduction is what makes it possible for mathematics to be at one and the same time completely deductive and ripe with new discoveries. In deductive inference and diagrammatical reasoning – in Peirce the two are identical – it is possible to observe generality directly, because we objectify our knowledge-gaining apparatus. Diagrams may be represented in material figures (which, it is true, require an idealizing reading) and thus avoid the subjectivist pitfall of the mind as a closed cage of representations. Diagrams are, at one and the same time three things: structures of the ideal hypothetical world discussed, objective material structures open for intersubjective scrutinizing, and subjective representations. None of these aspects can be missed: even if material diagram tokens require an idealizing reading to be understood as types, it is important to see that this reading, conversely, may need the support of the material diagram tokens. The fertility inherent in the multiplicity of possible chains of necessary deductions springing from a hypothesis reaches its peak point in theorematic reasoning. Which construction and which experimental manipulation can be undertaken on the basis of a given hypothesis is an open issue – augmented by the inexhaustibility of mathematics – and of the world of ideal objects in general.[viii]

Induction, then, has to test the deductive consequences of the hypothesis proposed. This, not surprisingly, may be done in three different ways.[ix] Peirce's shortest presentation of them counts Crude, Quantitative, and Qualitative Induction, respectively (Manuscript "G", c. 1905, 2.755). Crude induction is the simplest version which he sometimes nicknames pooh-pooh. It is the argument that as x has never been observed, then x is unlikely to occur at all. It is, of course, an extremely weak argument, but still, according to Peirce, extremely important because it is put to use all of the time when, without saying it, it is supposed that the ordinary experience may count as default value. It must, however, give way to the slightest sign of any positive evidence to the contrary. It is the argument that all swans are white, as no black swans have been seen. As it turns out, it plays a crucial if mostly neglected role in literary interpretation. Quantitative induction is the investigation of a hypothesis by controlled sampling in a finite set of investigations, to be treated statistically. This – strongest – inductive argument plays rarely a role, if any, in literary interpretation. Finally, Qualitative induction is applied when the conditions for Quantitative Induction are not present (when there is no finite set from which to select a sample). It is an intermediary between the two others (also in strength):

> It consists of those inductions which are neither founded upon experience in one mass, as Crude Induction is, nor upon a collection of numerable instances of equal evidential values, but upon a stream of experience in which the relative evidential values of different parts of it have to be estimated according to our sense of the impressions they make upon us. (ibid.; 2.759)

In normal scientific investigation, Crude Induction merely plays the role of background screening, almost automatically weeding out all sorts of logically possible, but materially fantastic hypotheses. The inferred consequences of the hypothesis chosen are tested by means of Quantitative and Qualitative Induction, respectively. In the experimental sciences, Quantitative Induction takes place in relation to an experiment devised by the hypothesis. The results of the experiment are now compared to the deductively predicted results, and statistic evaluation of a number of results may lead to the conclusion of verifying, falsifying, or, most often, relativizing or refining the hypothesis. Qualitative induction is a weaker sort of test dispensing with quantitative measurability; we shall return to it below.

As is evident, Peirce's Ab-De-In Doctrine forms an early version of the well-known Hypothetico-Deductive method. It adds, however, to this, the deliberations on the abductive choice of hypothesis, the diagrammatical account of deduction, and the admission of non-quantitative inductive testing. Let us try to conceptualize literary analysis in terms of Peirce's apparatus.

Literary Interpretation

To a large extent, literary interpretation shares the features of ordinary text interpretation, e.g. of ancient documents, or of more or less complicated pieces of everyday writing. Literary texts, however, add certain dimensions to interpretation as such. Literary texts are prototypically *closed* in the sense that they constitute a work, an œuvre with strictly defined boundaries. These boundaries are not absolute, but they constitute a first barrier for and constraint upon interpretation. Interpretation ought to go as far as possible within textual boundaries and establish the internal systems, meanings, coherences, claims, forms, aesthetics, world view, or whatever interpretation is looking for, before it crosses the boundaries in order to search for the answer to unsolved questions in the text in its context. This is not the case in non-literary texts where we immediately go outside the text to solve puzzles unanswered by the text – if a text lacks information on some point, we do not hesitate to supply it from elsewhere. Of course it is possible to read ordinary texts from a 'literary stance' trying to establish its internal structure before adding outside material, and the conceptual distinction between literary and non-literary texts should not lead us to assume that empirical texts fall in two strictly separate classes; rather, there is a continuum between prototypically literary texts and prototypically 'ordinary' texts. The prototypically literary text's closedness, however, urges us to read it in a *generalized* manner: not only for the particular content it seems to convey, but interpreting it as pointing to some more general claim than is evident on the text's surface. Its closedness and its supposed generality are two sides of the same coin. This is what elementarily characterizes literary interpretation: its generalizing intention aimed at a text seen with a certain closure. Literary interpretation prototypically presupposes that the text carries a general content of which the particular contents of the text is but an instantiation.

No matter what more specific theory the reader may entertain about literature, this interpretation follows a certain method. The beginning of interpretation is nicely caught in Freud's classic description of the analyst's

mind during analysis, that of "gleichschwebende Aufmerksamkeit", floating attention[x] – aimed at nothing specifically but listening in order to discover connections in the patient's speech. The same is the case in literary interpretation. Its base is an ordinary reading of the text, including the passions, emotions, thoughts, observations, pleasures or pains it has given rise to on the part of the reader. It is on the basis of this immediate conception of the text that the "gleichschwebende Aufmerksamkeit" sets in. It does not look for anything specific, that is, it is equally open to remark phonetic resemblances or oppositions, prosodic repetitions, graphic patterns, semantic overlappings or ambiguities, rhetorical similarities or contrasts, thematic recurrencies, narrative developments, metaphorical structures, organization of space-time, different dia-, idio-, sociolects, genre structures – not to mention the possible cross-mappings of patterns between all these and more. In short, all sorts of correlations in the text may be picked up by the first phase of literary interpretation. They constitute the 'surprising facts' of Peirce's epistemology, surprising, that is, in contrast to an 'ordinary' reading of the same text. They call for the selection of a hypothesis – an abduction. This is not a special hurdle to pass, rather abductions spring forth all of the time during this phase of interpretation, most of them so obvious that they need not be explicit. There may be a striking amount of imagery pointing to death in a certain lyrical poem – an abduction now may state the hypothesis that the poem is not only about a pastoral scenery like it immediately seems to be the case – but that it also carries a metaphysical reflection about mortality. This is a striking fact of surprise: a landscape description does not normally entail a death description. Now, the hypothesis erects an ideal model: the poem contains a reflection of mortality.[xi] What would we expect from a reflection upon mortality? The theme of mortality has a lot of aspects, and each of them has certain necessary implications (prototypically – all other things equal, of course). Death implies silence and stillness, the ceasing of any projects, a grave implies rottening flesh populated by worms, the passing of a family member implies mourning relatives, etc. etc. A piece of cultural knowledge adds further possibilities: death may be represented by hourglasses, schythes, skulls, unused instruments and books, cut flowers, etc. – the whole imagery of the *memento mori* genres in literature and painting.[xii] Are any of these many deductive consequences of the hypothesis chosen corroborated by the text? Here induction enters the scene. Crude induction plays a large role in the interpretation of literary texts, because we can assume that in the absence of any signs pointing to the contrary, everything unmentioned possesses a default value.[xiii] The role of crude induction is so much larger in literary texts, because there is no other access

to the textual universe than text itself – this in contradistinction to ordinary texts about empirical subjects where there always is an infinity of possible information about a given subject, and hence the possibility of counterinformation showing up. The literary text is, even if voluminous, finite, and if nothing ever is told or implied about the main character's legs, we can safely – even more safely than in real life cases – assume that he has two legs. This omnipresence of crude induction in relation to literary text forms a first step in the text's generality, because the corresponding 'Unbestimmtheits-
stellen' refer to an infinity of possible extensions (the legs may be long or short, with much or little hair, etc. – they remain general legs until further described). Crude induction does not, of course, tell us anything about more specific hypotheses like the one about death in a lyrical poem. Such hypotheses call for Qualitative Induction. Let us here take a closer look at how Peirce describes it:

> Qualitative Induction consists in the investigator's first deducing from the retroductive hypothesis as great an evidential weight of genuine conditional predictions as he can conveniently undertake to make and to bring to the test, the condition under which he asserts them being that of the retroductive hypothesis having such degree and kind of truth as to assure their truth. In calling them "predictions," I do not mean that they need relate to future events but that they must antecede the investigator's knowledge of their truth, or at least that they must virtually antecede it. I will give an illustration of such "virtual antecedence." Suppose that to avoid wasting a great deal of time upon a hypothesis which the first comparisons with the facts may show to be utterly worthless, an investigator of a certain conjecture draws up and resolves to follow a well-considered initial program for work upon the question, and that this consists mainly in working out and testing as many consequences of the hypothesis as he can work out by a certain mathematical method and can ascertain the truth or falsity of at a cost of not more than $100 for each. But suppose that among the half dozen predictions to which that method will carry him, there, quite unexpectedly, turns up one whose truth has long been known to him, though it is a surprise to him to find that it is deducible from the hypothesis under examination. What course does sound logic impose upon him under these circumstances? The answer is that he must reexamine the process of retroduction that suggested the hypothesis; and if the fact that is now repredicted in any degree influenced that

> hypothesis, it has had its due effect, and must not be used again. But if not, will he then be free to use the prediction if he likes? Not at all: the validity of his Qualitative Induction will be found to depend upon his following a rational and decisive method; he has no more right, but rather less, to favor the inductive rejection of the retroductive suggestion, than to favor its inductive adoption; and he is bound, as a man who means to reason as honestly as the imperfections of his nature and training will permit, to admit the true prediction into his counsels. The predictions must eventually be so varied as to test every feature of the hypothesis; yet the interests of science command constant attention to economy, especially in the earlier inductive stages of research.
>
> Having made his initial predictions the investigator proceeds to ascertain their truth or falsity; and then, having taken account of such subsidiary arguments as there may be, goes on to judge of the combined value of the evidence, and to decide whether the hypothesis should be regarded as proved, or as well on the way toward being proved, or as unworthy of further attention, or whether it ought to receive a definite modification in the light of the new experiments and be inductively reexamined ab ovo, or whether finally, that while not true it probably presents some analogy to the truth, and that the results of the induction may help to suggest a better hypothesis. ("G," 1905, 2.759)

Here, Peirce outlines how Qualitative Induction may fail: if one of the consequences is recognized as true by the interpreter *for other reasons* than the argument in process or facts presented in the induction, then he must reconsider the hypothesis – maybe it was this truth, accidentally occurring among the implications of the hypothesis, which lured the interpreter into accepting the hypothesis in the first place, and not its fertility in the ongoing interpretation. In our example, this would correspond, e.g., to a case where the interpreter has a certain obsession with Freud's concept of a death drive, regards it as one of the necessities of death, and assumes the hypothesis for this reason (rather than because of observations in the text). If such 'false' predictions are avoided, then, the remaining predictions should now be inductively tested. Are any hints of rottening flesh, worms, silence, emptiness, sorrow, etc., or skulls, cut roses, crosses, hourglasses, etc. found in the text? If there are, the hypothesis may be considered strengthened, if not proved, and in any case it may be refined, now maybe concentrating upon a special aspect of or conception of death, which may then be further

investigated through new deductions and inductions. A very important implication of this Ab-De-In cycle in interpretation is the fact that only the two of the phases deal directly with the text, namely Abduction and Induction, each in their direction, so to speak:

> Abduction seeks a theory. Induction seeks for facts. In abduction the consideration of the facts suggests the hypothesis. In induction the study of the hypothesis suggests the experiments which bring to light the very facts to which the hypothesis had pointed. The mode of suggestion by which, in abduction, the facts suggest the hypothesis is by resemblance, […] the resemblance of the facts to the consequences of the hypothesis. The mode of suggestion by which in induction the hypothesis suggests the facts is by contiguity, […] familiar knowledge that the conditions of the hypothesis can be realized in certain experimental ways.
> ("On The Logic of Drawing History from Ancient Documents", 1901, EPII, 106; 7.218)

Abduction selects a hypothesis able to account for the facts in question – induction seeks confirmation among facts of the deductively 'enlarged' hypothesis. Both share the comparison between facts and hypotheses, and it is easy to see that in the want of the deductive phase, the two of them might easily mirror each other so that any hypothesis might only bring into its horizon suitable facts, so that such 'theory-laden' facts might blind the interpreter from admitting counterhypothetical facts. Here, the intervening deductive phase is extremely important. It turns, momentarily, away from the facts of the text and contemplates only the hypothesis handed over from Abduction. It then considers it as an ideal model and draws a bundle of necessary consequences of it, completely disregarding its background in the text for a moment. This is where theory of any kind may step in. The hypothesis is, in itself, theoretical of nature. In the grasping of its consequences, theorematic reasoning allows for the introduction of new variables, new 'construction lines' in order to facilitate new experiments which may uncover more of the possibly implicit content of the hypothesis. This is the place where theoretical assumptions of all kinds may enter the methodological circuit of interpretation. If I hold certain theories about death – for instance Freud's already mentioned speculative idea of the Thanatos principle – they may be invoked as additional material in order to find what further consequences may be drawn from the idea that the text in question deals with death. Freud's theory, for instance, implies that there is a drive in

nature and psychology to reach the lowest level of energy and tension. Consequently, lowering of tension may be ventured as a possible deduction from the enlarged hypothesis, and this implication may now be inductively tested. It is of crucial importance here to distinguish between the two motives for theory import: theory as explicit 'construction lines' imported in the diagrammatical reasoning interregnum, or theory as unrecognized, implicit guide-lines for the selection of the hypotheses in the first phase. In the former case, theory may be so to speak controlled or checked by induction; in the latter case not so, because it silently governs the very selection of hypotheses to be checked. This constitutes, in fact, a difference between interpretation and overinterpretation.[xiv]

It is, indeed, a subtle difference. For is it not the case that theoretical preconceptions are at stake already in the early abduction phase of 'creative perception'? If the 'creative perception' leading to the death hypothesis in the first place is a perception of the poem's landscape scenery as strangely barren, dark, and desolate, then is it not the case that our theoretical predispositions play a role in our selection of that hypothesis among many other possible hypotheses to be tested? It is, of course, the case. Our arsenal of theoretical devices play their role twice, both in the pre-explicit choice of hypotheses in the creative perception phase of abduction and in the experimental phase of deduction. What is important, then, is that theory's role in the former case is not that of a presupposed truth, but rather that of an assumption, a way of viewing things experimentally.

The deductive phase on a certain distance to the text may be compared to Ricœur's idea of a so to speak structuralist phase in any ever so hermeneutical text interpretation with its 'Einfühlung' – a phase in which the structures of the text are objectified and, in the passing, seen as beyond any author intention, as an autonomous, ideal system equipped with their own internal regularities. Diagrammatical reasoning makes possible the explicit discovery of truths hitherto being only implicitly present in a diagram. This is why this phase of interpretation is so important: it is here that the not immediately obvious may be revealed.

In our prototypical presentation, we have artificially pretended the interpretation to take place in the course of one Ab-De-In circuit. This is, of course, a simplification for the sake of explanation. In real interpretation, the circuit is traversed any number of times, and each new text observation gives rise to yet another hypothesis-deduction-test series. There is reason to believe that any initially assumed hypothesis will either be refuted or refined during the ongoing interpretation. This does not imply, however, that interpretation following this method, will invariably end in one very subtle

and many-faceted hypothesis. A literary text is a huge, complicated phenomenon, and there is no a priori reason to methodologically assume that its crucial features will in all cases sum up in one hypothesis, be it ever so complex. Of course, hypotheses may endlessly be combined by 'and' to yield huge combinatorial hypotheses (yet without any further internal cohesion), but we may easily expect that, in some cases, different text observations give rise to contradictory hypotheses which may both be corroborated by different inductive test observations. In that case, interpretation will have to conclude that an ambiguous text is under investigation.

Jerolomon revealed

Peirce himself did not, of course, test his epistemology in literary interpretation. There exists, however, a very interesting quote where he presents a piece of fictitious interpretation of a fictitious homegrown example:

> Suppose, then, that, being seated in a street car, I remark a man opposite to me whose appearance and behavior unite characters which I am surprised to find together in the same person. I ask myself, How can this be? Suppose I find this problematic reply: Perhaps he is an ex-priest. He is the very image of such a person; he presents an icon of an ex-priest. Here is an iconic argument, or abduction of it. Secondly, it now occurs to me that if he is an ex-priest, he should be tonsured; and in order to test this, I say something to him calculated to make him take off his hat. He does so, and I find that he is indeed tonsured. Here at last is an indication that my theory is correct. I can now say that he is presumably an ex-priest, although it would be inaccurate to say that there is any definite probability that he is so, since I do not know how often I might find a man tonsured who was not an ex-priest, though evidently far oftener than he would be one. The supposition is, however, now supported by an inductive induction, a weak form of symptomatic or indexical argument. It stands on a widely different basis from that on which it stood before my little experiment. Before, it rested on the flimsy support of similarity, or agreement in "flavor". Now, facts have been constrained to yield confirmation to it by bearing out a prediction based upon it. Belief in the theory rests now on factual reaction to the theory. Thirdly, while the man's hat is off, I read in the crown of it a name

> that has been pasted into it. I have no doubt whatsoever that it is the man's name. I do not go into the question of how I come to be so confident of that. As long as I have not doubt, it matters not how doubt came to be destroyed. I get out of the car, and go to call upon the chancellor of the diocese; and that he will tell me the truth I equally believe implicitly. I ask the chancellor, "Who is Michael Wo-Ling Ptah-Hotep Jerolomon?" (Pardon my nonsense.) He replies, "he is an ex-priest." "Is he the only man of that name?" "No, there are, or may be, fifteen. Fourteen of them reside in this town and are ex-priests. The fifteenth went, twenty years ago, to High Tibet, and has never been heard of since." It thus appears that the name read in the hat, thought having no striking "flavor" of ex-priest about it, nor any such causal connection with the man's being an ex-priest as was the tonsure, yet in consequence of this knowledge becomes a symbol of the man's being an ex-priest; for a symbol is a sign which becomes significant simply by virtue of the fact that it will be so interpreted. So, it might conceivably have been an accident that the man was tonsured, but now that the name Michael Wu-Ling Ptah-Hotep Jerolomon signifies for me a probability on that ground alone is over fourteen to one that he is an ex-priest. There is no escape from that. It is what I consider myself certain of. It is only a probability. Yet now, fourthly, combining the arguments into one mixed argument, and considering, what is logically relevant, that I have no serious stake in the question, I am satisfied to consider the mixed argument as proof, and to dismiss the question until it may acquire more importance. (Although the illustration is silly, it all the better covers the case.) (**LCS**, Robin L 75, 163-73, draft E)

Abduction: this man is an ex-priest. This idea is based on the surprising fact that he does not look like an ordinary person, but looks like a cleric.
Deduction: an ex-priest probably has a tonsure
Induction: test showing he has, in fact, a tonsure

Now the original hypothesis is strengthened by a further observation: the name Michael (etc.) Jerolomon in his hat (resting on the crude induction that a name in a hat is most often the name of the person wearing it)

Abduction: this ex-priest is Michael Jerolomon
Deduction: he is probably from this town's diocese

Induction: a call to the diocese reveals 14 priests of that name, against whom only one with that name has left the town for Tibet

The inquirer, of course, ought to have compared this finding with the telephone directory of the town (maybe there is a total of 3000 Michael Jerolomons living there) before he concludes to the 14/15 probability of the man being a priest. But suppose he knows that name is not widespread in the town – then the initial hypothesis seems corroborated with a degree of probability bordering to absolute certainty.[xv]

Interpretation Perspectives

Peirce's example is an – albeit fictitious – example of 'ordinary' interpretation. We already remarked the crucial difference between literary and 'ordinary' interpretation: in the former there is a crucial distinction between internal and external text observations. The interpreter, in the first phase, seeks to establish his reading with internal text observations only. This does not, however, imply that he excludes all of his encyclopaedic knowledge about the world while reading. When a text speaks about the Eiffel tower, the reader automatically assumes all his general knowledge of that edifice – that is, until further notice. This is part of the 'crude induction' in literary interpretation. But as soon as any signs in the text hint at the idea that this is not in all respects the 'normal' Eiffel tower referred to, the reader must bracket (parts of) his knowledge of that tower and admit the text's right to alter reality. In so far, the Ab-De-In cycle of interpretation makes use of the reader's encyclopaedic knowledge all of the time, even during the internal 'close reading' phase. Quite another issue is the text conceived no longer as a sign, as a piece of communication, but as a product of its own extratextual context – be it the author, the literary institution, the period, etc. Here, the text is seen rather as a symptom of other phenomena in reality. Here, the introduction of knowledge about the author's biography, the social or political conditions present at the time the text was written, etc. should be introduced with the same care as theoretical assumptions during the Ab-De-In cycle. They may be introduced as further motivations for a hypothesis or for the refinement of it, or they may be introduced as further fact corroborating an inductive testing. But just like the case about the danger of overinterpretation in theory introduction, they must not run counter to textual observations which thus retain a primacy over theory as well as context. Any attempt to directly deduce the text from (parts of) its context will, for this reason, be fallacious. This primacy is not absolute. It may be

relativized many times during the ongoing interpretation process when the introduction of external factors is called for: to understand the text as a replique in a conversation, to understand it as aimed at a specific type of reader, to understand it as reflecting certain conditions in the life of the author, to understand it embeddedness in the political culture of the period, etc. etc. etc. This relative primacy of text observations is, so to speak, the rational kernel of the autonomy doctrine of new criticism close reading.

The Ab-De-In cycle of interpretation can be compared with related processes in Peirce's philosophy. One is its very center, the pragmatic maxim from "How to Make Our Ideas Clear", and, in turn, its basis in laboratory experiment. The pragmatic maxim, as is well known, claims that the content of concepts should be clarified by considering which conceivable effects the object of that concept could have – then this will be the whole of that concept's content. But how does one investigate the conceivable effects of a concept? This should be done, of course, by a process of the same form as the Ab-De-In cycle. The pragmatic maxim is explicitly motivated by the structure of scientific experiment: a hypothesis is thrown forth (abduction), an experiment is constructed in speculation which will give such and such results if the hypothesis is true (deduction), the experiment is performed and supports or falsifies the assumption (induction). On the other hand, as is always the case in Peirce's philosophy, nothing is in logic which was not always already (albeit less controlled) in nature. So the Ab-De-In cycle has its naturalist counterpart in the trial-and-error of Uexküllian functional circles and maybe even – so Peirce – in process of evolution: variation (abduction), species consequences of variation (deduction), and natural selection (induction). Thus, on Peirce's account, scientific experiment, the clarification of concepts, literary interpretation, and biological evolution share the same fundamental trial-and-error structure – involving the crucial diagrammatical experimentation phase introducing ideal objects. The idea that interpretation so to speak has a biological structure is be relevant for the nascent science of biosemiotics (cf. ch. 9-12).

All of these processes might be collected under the headline of 'thought experiments' – assuming, of course, that 'thought' is here taken in an objective idealist sense rather than in a subjectivist sense. Thus, literary interpretation as thought experiment is intimately related to semiotic processes in nature and culture, while owing its specificity to the special properties of its object, the literary text.

[i] See Hintikka 1997; also ch. 4.

[ii] Peirce uses various other notions for abduction during his theoretical development: hypothesis, hypothetic inference, retroduction. Ab-, de-, and induction, being subspecies of arguments, are sub-subspecies of symbols in Peirce's systematic sign doctrine.

[iii] Michael Hoffmann (1999, 2002) has collected and discussed the various arguments pertaining to the concept of abduction in Peirce and his most important interpreters.

[iv] As Hoffmann (2002, 257) comments, this forms an early version of Hempel's induction as the confirmation of a hypothesis by making it open for falsification.

[v] In that respect, it is involved in analogy. Peirce a few times mentions *analogy* as a further form of reasoning after Aristotle's "paradeigma", composed from ab- and induction ("History of science", 1896, 1.65) , but he never develops a it thoroughly, and the supposed workings of analogy seems to be explainable by the abductive trial-and-error application of diagram structure on different materials.

[vi] Hoffmann 2002 argues strongly and at length for this distinction between the logical form of abduction and its character of "creative perception".

[vii] A basic hint lies, of course, in Peirce's possibility realism. Among all hypotheses which are possible in the weak sense of "not known not to be true", hypotheses supported by known real possibilities (already recorded laws, tendencies, patterns, etc.) stand out as the hypotheses most promising to test.

[viii] Peirce's discussions of the three different types of induction in the years after the turn of the century (in "On the Logic of Drawing History from Ancient Documents," (1901, EPII, 75; 7.164-231); in L75 (1902); in "G," (1905, 2.755-759); in L224 to William James, (1909, EPII, 492), etc., and their respective subtypes merit a whole separate discussion. Here, we shall stick to a short presentation aimed at the particular problem at issue.

[ix] As always, other possible hypotheses abound: the appearance of death symbolism is an accident or coincidence, it owes it existence to the fact that the poem is pieced together of two autonomous parts, it owes it existence to the special location depicted, in which death signs naturally occur … etc.

[x] Cf. Freud 1948.

[xi] In what sense are these observations deductions from the idea of the poem as a piece of *memento mori*? They are obviously not ordinary deductions; it does not follow with necessity that a poem about death contains these images. But they are deductions in the sense of "probable deductions" which differ from induction as a probable inference. Probable deductions conclude with necessity about probabilities. Given this piece of knowledge of cultural history, an ideal type death poem could be said to exist, of which there is, with necessity, a certain probability that a death poem will instantiate certain features. If no necessary consequences flowed from the fact that the poem is a death poem, on the contrary, the claim would be empty.

[xii] This is one of the implications of Ingarden's idea of a level of "schematized aspects" of the literary text: the objectivities presented in the text are always seen as schemas, that is, with lots of "Unbestimmtheitsstellen", that is, undetermined parts. The reader's filling-in of such parts prototypically takes place by "crude induction" – if a man is introduced, he will be grasped as two-legged, until the contrary may be suggested – cf. next chapter.

[xiii] See Umberto Eco's discussion volume of the same title (1992). Eco here proposes a "Popperian" principle which allows not to find the *best* interpretations, but to ascertaining which interpretations are "bad" (Eco 1992: 52). It is an Augustinian idea: "any interpretation given of a certain portion of the text can be accepted if it is confirmed by, and must be rejected if it is challenged by, another portion of the same text" (Eco 1992: 65). Eco picks the example of the British-Italian scholar Gabriele Rossetti's reading of Dante. He sets out to prove that Dante was a Rosicrucian (and, as a corollary, that the Rosicrucian symbol of a cross in a rose with a pelican ripping its own flesh from its breast underneath is present in his work). Rossetti finds a cross and a pelican at the same spot in Dante (not so strange as the self-sacrificing bird is an old symbol of Christ), he also finds a rose, but unfortunately not at the same place. His supporting hypothesis now goes that the parts of the symbol have been so dispersed in Dante's work for secrecy reasons. Eco, of course, points out, that this is a blatant case of overinterpretation, made possible only by this extra, unfounded hypothesis. In relation to the early existence of the Rosicrucians, Eco says that Rossetti adds the absurd argument of *Post hoc, ergo ante hoc*: because Rosicrucian symbols, dating after Dante, seemingly can be found in his text, the order must be even *older* than him. In our discussion, the theoretical assumption that the Rosicrucians are earlier than Dante governs the whole hypothesis in the symbol reading – instead of it being explicitly admitted as a hypothesis which may be confirmed or refuted depending on the findings of the Dante exegesis.

[xiv] Which is, of course, completely different from the deconstruction fad of the 80's assuming that all texts necessarily contain deep contraditions.

[xv] As is evident, both deductions contain the word "probably" – but this does not mean they are not necessary inferences, quite on the contrary. Probable inferences – inductions – build on observations, while deductions are based on idealized models. The idealized model of a catholic priest has a tonsure, just like the idealized model of a priest ties him to the city he lives in. This does not entail that all empirical priest are tonsured nor stick to their hometowns, but it implies that prototypical priests do so. Thus, the word 'probably' here refers to the relation between the ideal model and its empirical extension, before any empirical observation.