10-1-1982

Piaget and Poetry: Formal Thinking in the Humanities

James A. McShane
University of Nebraska - Lincoln, jmcshane1@unl.edu

Follow this and additional works at: http://digitalcommons.unl.edu/adaptessays

Part of the Curriculum and Instruction Commons

http://digitalcommons.unl.edu/adaptessays/38

This Article is brought to you for free and open access by the ADAPT Program -- Accent on Developing Abstract Processes of Thought at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Essays from and about the ADAPT Program by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.
PIAGET AND POETRY

FORMAL THINKING IN THE HUMANITIES

James A. McShane
ADAPT Program
Department of English
University of Nebraska-Lincoln

A Paper Presented at the
Reasoning, Piaget, and Higher Education Conference

Denver, Colorado
October 1, 1982
Piaget and Poetry: Formal Thinking in the Humanities

My argument in its broadest outline is not surprising: sophisticated poetry requires formal operations. Poems are, after all, statements of a propositional nature, verbal constructs of carefully integrated parts, often non-linear in their arrangements, analogical (analogy itself requiring proportional reasoning) in their presentation, and (as Aristotle noted) dependent for their intelligibility on the reader's judgment of the contextually probable. What interests me is the number of ways the Piagetian analysis of pre-formal thought illuminates those often disturbing readings, to our eyes unfathomable readings, which we are given by our less proficient students. I am further interested in what Piaget has to tell us about the intellectual skills our students must learn to become adept as readers and about how we can nurture such learning.

My mode of exploring these issues was to assess reader responses to a variety of questions about Shelley's sonnet "Ozymandias" (See Appendix 1). My hypothesis was that the poem, although its regular appearance in anthologies suggests that it is not one of great difficulty, makes demands beyond the capacity of those who do not bring formal operations to bear on it. In particular, it requires the reader several times to think reversibly; that is, in this case, to generate one meaning for a set of words and to sustain that meaning while considering those words afresh and generating another, complementary, meaning.

My population originally consisted of ADAPT freshmen. Soon it was expanded
to include faculty members, T.A.'s, and graduate students in many disciplines, who graciously submitted to my instruments at one workshop or another. Eventually I was able to include other Freshman English students, both Honors students and students whose approach to the discipline was one of reluctance. I should note that the distinguishing feature of the responses found in all these groups was the extent to which they were adept at poetry. It was not which group anyone belonged to. Concrete operational readings dominated each group.

To see what I mean, let's first examine formal operations in reading "Ozymandias."

1. **Suspension of judgment**, pending investigation and assessment of possibilities for apparently odd lexical choices:
   2. "Antique":
      Disequilibrating feature: the conventional reader sees this as "ancient;" metrically "ancient" works better as it is accented on the first syllable. Why "antique?"

      Resolution: "Antic" and "antique" have an interwoven history: the first has been spelled like the second, and the second was often pronounced (especially in poetry) like the first (OED).

      This word choice allows Shelley to suggest the tenor of his poem from the beginning. A sensitive reader will read "antic" from the metrics as well as "antique" from the spelling. That reader will pick up the flavor of the incongruous (especially in sculpture), the grotesque, and the buffoon from "antic" -- as well
as the old, outdated, and arrested-in-time of "antique." Both meanings illuminate the poem. But to discover them requires the formal operation of suspended judgment, sustained with reversibility while one explores both readings.

b. "Mocked":

Disequilibrating feature: How can the sculptor get away with mockery of a tyrant?

Resolution: See note to text. The sculptor is engaged in a game whose shades are as delicate as the word used to describe it. We see derision, but also true likeness. Did Ozymandias see the mockery? We don't know -- but his arrogance suggests a blind side and we, in this poem, see other things he did not. Shelley requires us to see ambiguity, to accept one sense of the word for the sculptor and probably another for Ozymandias. This requires reversibility and hypothetical reasoning.

2. Combinatorial reasoning particularly about grammatically difficult constructions: does the reader investigate all possibilities? does the reader determine probable choices or sustain variant possibilities?

a. The "sculptor well those passions read":

Disequilibrating feature: The sequence noun-adverb-adjective-noun-verb is an unusual one. Does the reader see the various possibilities for the subject of "read" or stop with the conventional subject-verb order?

The latter truncated reading, of which I have numerous instances, sees "passions" as subject of "read," which has no object, (I have not ascertained how such readers integrate "Sculptor" into this sentence, or whether they are satisfied -- as at least sometimes they seem to be -- to leave it as a free-standing a-syntactic entity.)
Resolution:
A formal reader finds the characterization of the passions as good readers improbable and the omission of "sculptor" from syntactic integrity untenable. Employing combinatorial reasoning, such a reader explores the text for other, more acceptable, interpretations. Once having begun that exploration, it is not hard to find one both syntactically and semantically satisfying: the "sculptor read the passions well."

b. "Those Passions":

Disequilibrating problem: "Those", as a demonstrative adjective, would seem to refer to something already seen. But what has been seen heretofore in the poem which would require the plural form is the legs and the features -- both improbable references for "those passions".

Resolution: Again, what is required here is a recognition of unease and a plan to allay it. Combinatorial reasoning suggests another possibility: the demonstrative may look forward rather than backward. In particular, it may alert the reader to the succeeding clauses, those that begin with "which" and run through lines 7 and 8. The judgment of which reading to adopt rests with an assessment of probabilities -- in Piagetian terms, an exercise in probabilistic reasoning.

c. "Survive":

Disequilibrating features: Lines 7 and 8 center on this word which seems to be intransitive but which again seems to be followed by a-syntactic words ("heart" and "hand").

Resolution: Readers generally read by groups of words, clauses or phrases. But when confused, formal readers go word by word, stopping at each pause, to
integrate their sense of the whole. Shelley structures his pauses to induce several readings:

1. "Those passions which yet survive," Here one notes the perennial nature of destructive passions. There is not only the traveller's assertion that the passions survive, but we feel no resistance to that assertion. Our experience confirms that we in our day (in Hitler, Stalin, whomever) have experienced such cruel arrogance -- just as Shelley did in his (Napoleon, English statesmen and judges, etc.). This recognition, that it is the ferocious characteristics of our race which (rather than charity, e.g.) abide, is crucial to the poem. The formal reader holds this recognition in mind while proceeding to explore the rest of the two line passage. Such a reader reverses, considers the same words anew in a larger context.

2. "Those passions which yet survive, stamped on these lifeless things . . . ." Here our attention shifts. We now attend to the extraordinary skill of the sculptor who has managed to read and permanently to capture even in the dead medium of carved stones such fleeting things as expressions of passion and the substantive reality behind them. (In this context, to "read" means to "understand and interpret.") His powerful skill is as supreme in his realm as is Ozymandias' in his. And here we are given a glimpse of the ironic juxtaposition of the permanent and the ephemeral, and of our confusion of the two (we think monuments lasting and emotions momentary) that characterizes the dominant irony of the poem. The second reading complements the first. The poem here does not require as it did with "read" and "those" an either-or choice ("Passions" or "sculptor" is the subject of the former; the latter points backward or forward).
So the reader retains both readings in mind, reverses field and considers the two line sequence afresh in a still fuller context.

iii. "which...survive, stamped on these lifeless things/The hand that mocked them and the heart that fed." Again there is a demonstrative adjective ("these") which might look forward, making "heart" and "hand" in apposition to "things." But that is improbable: The lifeless stamped mirror of the passions is the face, not the hand and heart, besides, statues have no heart. So "these" cannot look forward. The remaining choice is that it looks backward (reasonable enough in a poem where "those" looks forward)--backward to the shards. Consequently the nouns "hand" and "heart" must have another syntactics role. A combinatorial check of possible roles suggests that they might be objects of "survive"--which then, as "read" did earlier, comes to be seen as transitive.

This transitive reading of "survive," (the "passions...survive...the heart... and the hand...") is grammatically mandated over the intransitive ones. But the semantic sense of the grammatically required reading does not clash with that of the others. And the latter so resonate in our imaginative experience of Shelley's sonnet that we do not dismiss them. We sustain all three readings as complementary to each other in our understanding of the poem.

d. "The hand that mocked them and the heart that fed." There are two problems here: one is "them," the other "fed." "Them" I addressed in speaking of "those"--the passions are the focus of this whole series of clauses (lines 7-8) and so are probably the referent for "them." That being true, the "hand" is probably the sculptor's since one would be hard pressed to think Ozymandias capable of the self-deprecation required to mock his own passions, or to find anyone else in the poem to whom the mocking hand might belong. (Some concrete-
operating students adduce God as the owner of the hand for reasons I'll explore later; some others, pursuing another cliche, adduce Nature.) Here one must use combinatorial reasoning to generate the different possibilities and probabilistic reasoning to choose between them.

"Fed" is the other stumbling block. Here the problem is both lexical and grammatical. Grammatically, "fed", like "survive" and "read," can be intransitive--there is no immediately visible object in normal sequence. But lexically, "to feed" as intransitive is used generally of beasts and only with irony or contempt of people. This recognition of the contemptuous might suggest that the heart belongs to Ozymandias, whose bestial qualities are known already. Still, one wonders why the allusion is to his eating, unless perhaps he is self-consuming in his passions. The possibilities are there, but not fully satisfying. Facing with such unease or "disequilibrium," formal thinkers will try other approaches to ascertain meaning. Their knowledge that poems are integrated wholes might mind them to repeat a process twice already found illuminating in this poem--i.e., to seek an object for "fed." That is, the reader will move, as worked with "read" and "survive," to seek a transitive reading for "fed." Such a move is an example of correlational reasoning, examining a part in consonance with principles known to be operant for the whole.

An adept reader will know the regular poetic practice of deleting a word in a parallel construction in the expectation that the reader will provide it. Look at Pope, e.g., on Queen Anne:

Here thou, great Anna, whom three realms obey,
Dost sometimes counsel take -- and sometimes tea.

(Rape of the Lock, III, 7-8)
So too Shelley may expect us to supply "them" as the object of "fed" as the last word of the clause from the immediately preceding parallel construction -- "the hand that fed them." In Pope the focus is on the monarch who seems to take tea and counsel with equal seriousness. In Shelley the focus is on the fact that neither rage, nor dispassionate distance from that rage, will keep one, or one's works, from the corrosive effects of the passions.

As with "antique" and "survive", each possible meaning of "fed" must be generated by combinatorial reasoning, considered with reversibility, and sustained to savor the full richness offered by the poem.

e. The inscription: the problem posed by the two contexts in which we see these lines and the combinatorical reasoning required to see both aspects of these ironical lines needs no elaboration. It is sufficient to note that the operations required and the irony discovered are the crowning instance of several previously noted. The poem is very carefully orchestrated to achieve integrity of both point and process. One's appreciation of this orchestration depends on correlational reasoning which comprehends the resonances of whole and part.

f. "Boundless and bare:" Here there is not so much a problem as a quiet instance of that multi-layered construction characteristic of the poem. Most readers pay no special heed to this phrase, attaching it simply to the "sands." But there is a small satisfaction that comes from recognizing that the poet may well have ended his poem with another supportive instance of word-play similar to those we have been observing. At least, I would argue, combinatorial and correlational thinking makes us open to the possibility. "Boundless and bare" are adjectives which, due to the pauses induced by the comma before them and
the quasi-pause after them at the line's end, admit two complementary readings. In the first, they attach to the colossal wreck and, by extension, to the man who modeled it. Both statue and king are beyond reasoned restraint (the surviving legs alone are "vast", and Ozymandias' towering arrogance needs no remark) and both are exposed in their excess. The second reading attaches "boundless and bare" to the sand—limitless and desolate. Both readings together move the reader to make again the connection between obvious the excesses of Ozymandias and the extent of the ensuing ruin of his "works." There may be a third reading, one which links "boundless and bare" by extension from the sculpture to the sculptor. The pretentionsess of that statue is not attributable to the King alone, but also to the pride (the professional invidious emulation) of the artist as well. The very inordinate size of the work must make it as likely a target for someone's destructive rage as is the political pretentiousness of Ozymandias.

Such interpretations would, again, be consonant with earlier parts of the poem both in meaning and in the modes of deriving that meaning. Discovery of all three meanings requires formal operations. It requires combinatorial reading to explore the various possibilities ("wreck" and "sand") for "boundless and bare" to modify. It requires correlational operations which seek further instances of already known language patterns in other parts of a poem regarded as an integrated whole. It requires proportional reasoning to accept as aesthetically satisfying the analogy between king and sculptor. This analogy operates on us like our recognition of the passions on the statue. By showing the sculptor to be like the king, Shelley moves from the report of an isolated
incident to create a repeated pattern. The point of the poem thus becomes universalized.

In sum, we have seen that the standard operations characteristic of formal thought are essential to reading Shelley's sonnet, and, I suggest, to poetry generally. These include a capacity:

-- to think in propositions, hypothetically and deductively,
-- to separate and control variables (both lexical, syntactic, and metrical)
-- to think proportionally and analogically,
-- to determine probabilities,
-- to correlate parts and wholes,
-- to reason conceptually with symbols (words)
-- to handle ambiguity, to accept or reject elements thereof, or to suspend judgment
-- to plan and execute a process to resolve problems
-- to be conscious of such processes and able to validate and defend choices by appeals to relevant contexts and to appropriate operations.

Piaget could as well have been speaking of poems when he described the operations I believe required to read them: he calls such operations "integrated structures"--structures whose elements are brought together in a whole, which have properties as a whole, and structures in which the properties of the elements depend partially or entirely on the characteristics of the whole.

(GLT. xv)
Pre-formal thinking.

For Piaget, such formal operations as I have been exploring are characterized by consciously active mediation between internal structures and observed external operations (G.E. 77 & 78). This mediation is planned, monitored, and subject to discursive description and defense. Preformal thinking relies on both internal schemes and observed externals, but what mediation there is between them is not subject to awareness and consequently is haphazard and difficult to comprehend by others.

The mind operating on a pre-formal level then is like that of the disordered speaker in Marvell's "Garden:" at once or by unpredictable turns such a mind is:

that ocean where each kind

Does straight its own resemblance find,
Yet it creates, transcending these,
Far other worlds, and other seas,
Annihilating all that's made
To a green thought in a green shade.

(43-48)

That mind will seize upon and adopt the form of, will "imitate," what it encounters; it will exhibit that "fundamental tendency...to reproduce...the external movements to which the organism is compelled to adapt itself." In its most rudimentary form, this imitation moves the mind to conform itself to the shapes presented to it without processing those shapes at all. Such a mind
will also "assimilate" what it encounters, exhibiting the tendency "to transform perceptions until they are identical with one's own thought, i.e. with previous schemes" (R & R, 173). Such assimilation moves the mind to process the shapes presented to it without preserving the integrity of the shapes as presented. The product of these activities is revealed in ego-centric speaking or writing which is not conscious of the inconsistencies of its own operations or aware of a need for explanation of those operations which is satisfactory to others.

It is, in the face of such stark description, difficult to imagine someone wholeheartedly engaged either in purely reproductive imitation or in thoroughly transforming assimilation—never mind someone unconsciously engaged in both simultaneously. But, demonstrably, it does happen. In Appendix 2 I have included three student rewrites of "Ozymandias." Rewrite I is there to show how a reasonably alert student understood the instructions (See Appendix 1, E). Rewrite II is almost entirely imitation: s/he makes only 3 pointing changes, lets slip 2 misspellings (assuming "is" for "its" is a misspelling) and feels the need to illuminate consciously only the understood subject of "Look." Otherwise, Rewrite II exactly reproduces the poem, adapting itself entirely to Shelley's word order, and line constraints. Rewrite II assimilates only minimally. The quiet change of the comma to a semicolon at the end of line 7 shows that the reader sees "survive" as intransitive and so needs to make line 8 syntactically independent. (Students who do this seem to be submerging any awareness of the "that" which follows "hand" and "heart"). The addition of "(you)" suggests some problem with perceiving "ye mighty" as subject of "look on." In fact, in response to another question, this subject reads "despair" as "ye desperate," a noun in
direct address paralleling "ye mighty." This reading continues: "All walks of life can look on the remains. Each type will see their representative in the decay." This reader then seems to be at once conforming the mind to the artifact (in the almost exact imitation of the poem in the rewrite) and the artifact to the mind (in the pointing shifts and word changes) without cross referencing the operation.

Rewrite III more clearly assimilates the poem to the structures imposed by the mind. The paragraphing, at least initially, is better. But notice the revisions, again not expressly marked, of lines 6-8. Apparently, e.g., it is the sculptor which survives; it is the heart as well as the hand that mocks; and the reversal of "despair" and "look on" seems to make those verbs relate in a way very different from that in the original. There are other aspects of the poem as rewritten whose sense must surely elude all minds but the re-writer's. And not always can such readings be sustained. I recently asked another student to examine his egocentric rewrite of a Milton sonnet a week after he had written it; he remarked bemusedly, "I no longer recognize the poem I saw then."

Once we recognize the ego-centricity of such readers (and such readers are by no means a small minority of any of my samples) we need no longer be surprised or despairing at their work. When they are largely imitating, they preserve the specifics of the poem but cannot explore or defend an interpretation. Neither reader nor teacher can ascertain where the writer was aware of problems: indeed the former will insist there aren't any. When such readers are largely assimilating, the poem's specifics disappear while the reader's mental structures
remain (almost) intact. But they, too, are unable to describe or defend their emendations. Indeed, if they are aware of having made any changes they are likely to be shocked or offended when asked to defend them, remarking on the sacredness of a person's own opinions. Entitlement to one's opinion is precious when no other opinion is conceivable.

The fact is that ego-centric students cannot consciously assess their operations, not even for consistency. On the same exercise a given student identifies "fed" as intransitive, yet the relevant parts of the same student's paraphrase of Line 8 gives "the heart that breathed life into them while they were created out of the stone." Given the unimpeded movement from imitation (no object of "fed" is understood) to assimilation (the people were fed by God), the student is making two unrelated assertions--with no sense that one has precluded the other. Another similar reading seems at one time to think of Ozymandias primarily as a person, at another as a statue, and at a third as a hybrid with a heart which once vitalized those now trunkless legs of stone. Piaget puts it this way: the immature thinker "hesitates, as we do ourselves, between two opinions ... He has good reasons for each, but instead of choosing or suspending judgment, (he) affirms each one in turn " (J & R, 164). Like the child who does not conserve water poured from a skinny vessel to a squat one, the pre-formal thinker focusses on states not operations or relations. The immature reader does not focus consciously on syntactic relations, time sequencing, and probable inter-personal relationships and so does not clear confusions about the identity of Ozymandias the king and Ozymandias the statue.
Furthermore pre-formal thinking focusses more on its own actions than on observed processes and effects. Those actions take primacy over hypothesizing. The formal reader has a rule which allows the provision of "them" as object of "fed." The pre-formal one who has provided it instinctively sees what has been provided as if it were really there. But when asked directly such a reader sees no justification for adding an object, and so asserts that it is not there.

These operations, short-circuited as they seem to us, are quite normal—indeed they are the predictable patterns of unsophisticated thinking. By unsophisticated I here mean those unfamiliar with the tasks at hand. I have "Ozymandias" exercises from a wide range of people, certifiably formal in their own disciplines—Ph.D.'s, Professors, etc.—which are qualitatively no different from those of Nebraska Freshman. I am not arguing that we should be complacent because pre-formal thinking is widespread, still less that it has only been stamped out in English professors. Rather I am suggesting that if we look carefully at the real demands of our disciplines and at the real habits of our students, we can make a better match in our instruction.

Before getting to that, however, I'd like to explore three other, more systematic procedures which precede the formal ones—those operations which Piaget and Inhelder suggest are peculiarly "concrete." Concrete thinking is called such because it deals best with objects that one can actually experience (see, touch, manipulate) or with familiar objects. Such thinking, especially when confronted with other kinds of objects, shares the problems I have just
been exploring as characteristic of pre-formal thought. But it is advanced pre-formal thinking: with suitable objects it has well defined schemes, utilizes limited self-consciousness and requires some exercises in reversibility. Concrete thinking is particularly suited to ordering disparate items, conserving them, serially ordering them, and classifying them. Such capacities are hard won; they remain in use until hard experience convinces us of their inadequacy— and even then we change them only area by area. Unhappily, in the humanities such operations seem inadequate even at basic levels. We deal with artifacts, with structures of symbols (words or numbers) irreducible to concrete experience. Nevertheless, many of our students come to us with no operations other than the concrete available to them in our disciplines and we well advised to be aware of how their operations function. Consider the following examples from my "Ozymandias" exercises:

The first of Piaget's concrete operations that I will examine is conservation. This is the operation by which we know that if essentials remain constant, substance remains constant despite appearances. Our willingness to play hide-and-seek is an early manifestation of conservation; another is our confidence in a constant volume of water whether poured into the skinny or squat container. Reading my "Ozymandias" papers I posit a third: despite changes in context, words are reliably faithful to essential meanings. Such a rule is necessary for a child's movement to conversation from mere expression; and is enforced by years of pedagogical advice (some of it quite sound). But as long as one retains such a rule in a relatively simple way, irony is a problem: one finds irony disconcerting, confusing, and often indistinguishable from sarcasm. In reading
"Ozymandias" students who sustain this rule assimilate their reading of "despair" as a single-layer referent.

E.g., from my exercises:

-- Ozymandias' inscription means "Look on my words, you rich and you desperate . . ." (We spoke of this earlier.)

-- The king had the inscription carved because he knew his ruin was at hand.

-- The king caused the ruin so all would see and be wary of his power.

-- The inscription was carved after the fall of both king and statue: it expresses his feeling about their ruin and his own.

-- Ozymandias appears to have been a very powerful king: he wanted everyone to admire what he'd done and envy what he had.

Not only do these readers not see more than one reason for despair, they seem disposed against doing so. The shifting contexts do not seem to affect their tendency toward univocal meaning.

These exercises show other indications of such a tendency. Many students, despite repeated explicit and focussed opportunity, do not move to consider "survive" or "Fed" as transitive once they have decided otherwise. Significant numbers decline even to speculate about different reasons for 'despair,' even when asked explicitly why, e.g., the poet or the reader, might do so. Many, even in response to explicit instructions, do not treat the "hand" and "heart" separately and so never consider that they might belong to different people. Each of these responses can be seen as the product of the linguistic conservatism which results from the concrete operation of conservation.
A second concrete scheme is that of serial ordering, by size, age, or the like. The example we use in the ADAPT Workshop material is ordering plants by age according to leaf size. However, the more remote the elements to be seriated are from the subject's experience, the more difficult the task becomes and the more susceptible the subject is to accept an order suggested by someone else. (Subjects thinking concretely like formulas and can follow algorithms so long as they do not have to assess their relative usefulness.) I asked 18 students to order events in the poem (See Appendix 1F.) 5 thought the speaker met the traveller before the latter went to the antique land; 3 thought the statue had been constructed in the middle of the waste and 11 more that thought the sands had encroached before the statue fell; 3 thought the statue was smashed before the legend was carved on it. These responses look to me to reflect an assumption that the chronological order of events is reflected in the order of their presentation in the poem, and cannot be determined by some other principle of probable sequencing. There is a disconcerting number of literary works, even short stories, that cannot be intelligibly grasped with such an assimilative mindset.

Piaget's third standard concrete operation is that of classifying into sets and subsets. Again, concrete thinking can best handle familiar or actual objects in familiar or presented classification systems. Approaching the unfamiliar materials of Shelley's poem, readers thinking concretely grasp for a cue which allows them to discover what kind of poem this is, into what category it fits, and so under what sets or subsets its details are to be grouped and understood. Unfortunately their efforts tend to be syncretistic --
they connect a few items apparently arbitrarily and slot other elements in the light of that connection. Like Tolstoy's unhappy families, each such classification tends to be unique:

Some examples:

1. Many readers posit "the oppressed" as soon as they see an oppressor. Perhaps, my colleague Professor Bergstrom suggests, this movement holds particular relevance to the ancient world which they view as a DeMille epic. In any event, recognizing Ozymandias as an ancient tyrant ("A Farrow, "one called him) they conjure up downtrodden masses and set them to work in different ways:

   - one should despair over the pain suffered by the slaves who built the monuments;
   - the king both mocked and fed his people;
   - the people hated Ozymandias and erected an ugly statue of him (as an object lesson to any would-be successor);
   - the people hated the king who "was a bloodthirsty fool, devastated everything up and down the coast" (sand?) so they "tore down the statue."
   - etc.

2. Others, who may know the critical cliché that Romantic art is about art, variously report:

   - the sculptor's hand created the stone images, his heart vitalized them;
   - the sculptor despaired because he did not like the statue he had made;
   - this poem is a parable of the noble artist and cruel critic or debasing Philistine;
   - etc.

3. Others posit Huns, Goths, or Vandals; a variant of this view is to write about Egyptian grave robbers.
4. Others are religious allegorists. Some provide no more evidence for their readings than assertions such as that the statue is an idol (for whom despair is the preferred form of worship) or that the hands and heart belong to a patient and caring God, and the like. Richer readings, reaching for integration, cite the religious language ("King of Kings," "Ye Almighty," "despair") and make a fascinating move. They see a religious title in 'King of Kings" -- it is not clear whether they know of this attribute from the movies or from the apocalyptic works of Daniel and John the Divine. (In the former, King of Kings is a title given to Nebuchadnezzar, a great King destined to eat grass with the cattle, whose kingdom is designated for destruction; Daniel's Nebuchadnezzar does possess common elements Shelley's tyrant. In St. John, "King of Kings" is the title of the Christ in his role of chastiser of nations.) Shelley no doubt knew these sources and left the title in the inscription as a indication (available to the reader, but not Ozymandias) of the latter's arrogance. What I cannot imagine but my students can, is that Shelley expected his readers would think that the tyrant knew enough scripture to cite the title in a wilfully blasphemous address to the deity:

For your information, O God, I am Ozymandias:
Look at my works, O Mighty One, and be humbled at what I, a mere mortal, have accomplished.

Another variant has: "Look at my works, Oh, God, and feel grief" -- presumably at what I contrary to your will have accomplished,
Again, the reader has seized upon a single element and created a structure from it on which the other elements of the poem are racked. "Hand" and "heart" in these readings belong to a patient (temporarily at least) deity.

Imaginative as of some of these readings are, all of them are still concrete. Even when these readers grasp irony, it is of the single-layered sort that characterizes situation comedies or desk-copier commercials. Not even the irony of Ozymandias taunting God in the face of death and judgment is much more than monochromatic—especially for those bred in a milieu where such irony is a regular parabolic feature. To match the complexity of the standard reading of the poem, the religiously-allegorizing reader would have to propose the concomitant second construction of the inscription:

I am Ozymandias, O God; notice that even my works have collapsed: you had best look to your own . . .

Needless to say, I have not seen such a proposal. It seems of the nature of concrete constructions to be one-dimensional— or at least to focus on only one dimension at a time. They seem comfortable with inconsistency but not with ambiguity. Consequently readings based on concrete structures are regularly, if unpredictably, reductive. The most common reductive readings of "Ozymandias" show no awareness of the kaleidoscopic shifts in focus Shelley builds into his poem. They miss his emphasis on the universal constancy of corrosive passion and substitute for it a cliché about the leveling effects of the sands of time, or another about the equalizing power of Nature who will not be imposed upon.
But it must be said of such readings that they are the product of thought, of mental operations of a recognizable kind. Because such thinking is no longer accessible to those thinking formally in a given discipline, we tend not to recognize its products as normal to a certain stage of thinking. Achieving formal thought is so difficult, occurs as such a sea-change, that we forget how we used to think. But if we can reconstruct the thought processes involved, we can comfortably teach those who use them, rather than label such people in the impatience which springs from frustration -- or laugh at them out of the frustration that springs from despair.

What must be remembered is that we are dealing with a mindset, one which is normal but which regularly is inadequate for the formal requirements of the humanistic disciplines. Sometimes that mindset is disguised behind a ready use of formulas responses; it is generally inaccessible to objective tests which offer no insight into thought processes. But, such a mindset is certainly present in our classes, and as a mindset it is not subject to piecemeal correction. We are not talking about isolated correctable errors: in fact responding to concrete thinkers by rectifying particular errors offers no assurance that the same errors will not recur. Remember how willing such a mindset is to live with inconsistency, adopt suggested algorithms, etc.

Change does come and it can be nurtured. There is a definable movement from concrete thinking to formal thinking and sometimes one can spot the signs of transition. In humanistic disciplines one such sign is a willingness to entertain and explore, however tentatively, alternative possibilities. The
characteristic outlook of concrete thinking does not encourage such exploration. Once it begins, however, the transition is an unstable period and not often fully visible. Indeed, the products of transitional thinking are often no more heartening in appearance than those of resolutely concrete thinking. My data do not offer many clear examples, but I can offer a few:

- "The hand and heart are the sculptor's because he is using his sculpting to mock the greatness of Ozymandias and by doing this he does what he feels he should do in his heart. Besides, Ozymandias doesn't sound like he had much of a heart with his sneer of cold command."
- "Ozymandias is warning would-be attackers away, saying he alone rules ... The sculptor is perhaps despairing of the kind of rule and warning others to be more compassionate..."
- "Hand, The sculptor's or possibly Ozymandias' (the original not the statue) Heart, Ozymandias' (the original, not the statue).
- "...It is ironic that (Ozymandias') words, if come from long ago (despair--because this is my turf--your're in big trouble), are now spoken to no one. If they are read now--the warning has little meaning."

No one would claim that these were fully formed or complete interpretations, but they are on the verge of becoming so. They show propositional reasoning, a search for probability, and the initial stages of reversibility -- the ability to think hypothetically and to some extent to consider alternatives. One can expect these readers, with only little more experience, to read a great deal better.
The question, of course, is what kind of experience will help. Piaget repeatedly says that he is an analytic biologist and not an educationist. He is not sure that movement from stage to stage, from concrete to formal in particular, can be hastened. Sometimes he is frankly impatient with the notion that it ought to be hastened. His unwillingness to intervene ought to exercise a cautionary effect on elaborate pedagogical schemes and an encouraging effect on patience. There is further ground for diffidence in the humanities. The ordinary interventions available in the physical sciences, the application of hypotheses in particular, is not so readily confirming or disconfirming in our disciplines. Readers assimilating verbal constructs do not, in my experience, see the inadequacy of their schemes by being asked to continually apply them. My follow-up exercises on 'Ozymandias' show little improvement in subject performance. Students thinking concretely evidence little significant change when asked to apply grammatical analysis or to imagine the thought processes behind readings other than their own. Frequently they show avoidance behavior—as I noted earlier, a majority of my students who were explicitly asked to do so, simply did not offer any suggestions as to why poet or reader might find ground to despair in Shelley's poem. Often, too, their responses about why the king, or the mighty, or the traveller might despair are inconsistent and unrevealing. Their ego-centricity is such that it is hard to get a full sense of their meaning or of how it was derived.

On one set of 20 follow-up exercises, I noted 26 changed opinion's but only three improved readings of the poem. Pencil-and-paper tasks—at least those of my devising—seem inefficient.
Lecturing, as we all know, produces similar effects. Students will imitate our language blindly assimilated to their own schemes. See Appendix 3 where the language is imitatively professional (note my underlinings) but the operations and the language use is assimilative. It is not always true that the words for an operation come after the competence. And the evidence in the paper reproduced in Appendix 3 is that force-feeding the language may even impede development of operations. Students feel constrained to speak and act as their authority figures do--even when their work shows demonstrable misperceptions of the models.

Nevertheless I do not, like "Dzymandias," counsel despair. Unlike Piaget's subjects, our college students are already formally operational, even if not in our own discipline. We are not trying to hasten a global change--just to expand the effective range of cognitive powers that already exist. If we examine the factors that affect development, two are beyond our control (D and L, 78). First, we cannot effect the maturity of our students, although we can assume they have it. Second, we cannot require them to equilibrate or self-regulate--that is an internally spontaneous act. We can however structure environments in which self-regulation can occur, ones, that is, which celebrate thought rather than penalizing failure. And we can develop situations in which there is enough likelihood of disequilibrium that they will promote self-regulation. Crucial, I think, are the matters of experience and of particular kinds of social transmission. The experience Piaget speaks of as necessary for cognitive development is the 'experience of the actions of the subject,' and not
"experience of objects themselves..." "The subjects must observe in themselves and in their peers the cognitive actions which structure the arguments that mediate between external objects and internal schemes." They must experience these arguments from peers--just as my three year old must learn that "it's not fair" is not a variant of "I don't like it" and she cannot learn it from me. Piaget says that our formal processes, hypothetic and deductive reasoning and all that follow from it, are internalized arguments. And, he says, that we internalize arguments that we have experienced in social give and take, found effective and defensible.

Thinkers must learn reciprocity between their own thoughts and that of others: only then will they be able "both to incorporate new phenomena and events...and to respect their objectivity, i.e., the specific characters they present" (J & R 180). There may be a sign of transition to such a stage in a note I received from a student on an follow-up exercise. She was a senior, pre-med, already admitted to med-school and finishing a requirement in Freshman English which she had been avoiding after very uncomfortable experience in an English class early in her college career. "After having read the poem in a certain way," she wrote, "it is very difficult to see how anyone (else) reads it without talking to them. Thus, my answers change little because it is difficult for me to see any difference. Stubborn, I guess."

I pass over in silence the moral reflection offered by the last sentence about what we recognize as a cognitive problem. But what she says rings true to me: subjects need to experience arguments from peers with whom they can interact--more than they need instruction from authorities from whom intellectual judgments are indistinguishable from character judgments or from oracles.
My sense is that one definition of the humanities might well be the arts of demonstrating or of arguing. They constitute a rhetoric, in various branches, in which we must learn the appropriate arguments and invent the realms of discourse within which those arguments are effective. Formal thought is necessary to them because they deal with intangibles, unprovable, and yet with the essential elements of our knowing and valuing systems. In this arena, the two items that we can affect, experience and social transmission, become one and proceed step by step together. Disequilibrating experience comes from the feedback provoked by inadequate argument or the expression of inadequate hypothesis. Our classroom then should often become workshops--hot-houses of arguments engaged in as well as observed. The arguments may be structured to take advantage of what students can do--classifying, for example. Yet their form will frequently be such as to push classifying beyond its limits so the students must choose a system and defend the choice. In other words, they must be given the chance to self-regulate. At other times, the structured exercise can require the simultaneous use of different systems, so students must consciously order material in more than one way, indeed must consciously change an order previously adopted. In poetry they can be asked to balance or reconcile the lexical and metrical forms of "antique," for example, or the alternative readings which follow from different grammatical ties for "boundless and bare," or the different lexical and grammatical constraints on "Fed." My sense of the inadequacy of my paper-and-pencil tasks is that they encouraged no responsible arguing: the situations required the writers to suffer no answers-back which required defence. Formal thinking is internalized, consciously planned arguing which is
responsible at once to material, to mental structures, and to other thinkers. Classrooms which at once require such responsibility and which allow for the possibility of the growth that comes from felt inadequacy must, if I understand my own data and Piaget's schemes correctly, be those which will nurture humanistic formal thinking.
Appendices

1. **Ozymandias**
   by Percy Bysshe Shelley

I met a traveller from an antique land
Who said: Two vast and trunkless legs of stone
Stand in the desert. Near them, on the sand,
Half sunk, a shattered visage1 lies, whose frown,
And wrinikd lip, and sneer of cold command,
Tell that its sculptor well those passions read
Which yet survive, stamped on these lifeless things
The hand that mocked2 them and the heart that fed;
And on the pedestal these words appear:
"My name is Ozymandias, king of kings:
Look on my works, ye Mighty, and despair!"
Nothing beside remains. Round the decay
Of that colossal wreck, boundless and bare
The lone and level sands stretch far away.

1. Visage: the face, with particular reference to its features.

2. Mock: to imitate, frequently (though not always: see, e.g., "mock-up") derisively.

Questions:

A. On all 1st instruments:

   1. Those heart is referred to in line 8? Whose hand? Citing the text, indicate why you think so.

   2. Explore the reasons for "despair" (line 11) as you see them in the poem.
Appendices (Page 2)

B. Added later, appearing on most instruments:
What does "them" (Line 8) refer to? Citing the text, indicate why you think so.

C. For some students, as follow up:
- Give me a list of as many people as you can conceive of whose heart might be referred to in Line 8. Do the same for 'hand.'
- Identify the subject and object (if any) of the following verbs. (Where the subject or object is a pronoun, tell me what the pronoun refers to.): Met, lies, read, survive, mocked, fed.

For this question I provided models using 'Look (on) " and "Remains." I used "met" and "Lies" to ascertain if they understand the instructions.

D. For a further follow up, I asked some students to tell me what sense the poem would have if the hand belonged to: the sculptor
the traveller
the King's people
Nature
God(s)

(All these names came from their own previous papers.)
I asked the same question, with the same list, for the heart.
Another question on the same follow-up asked them to consider the reasons each of the following (suggested by them) might have for despair:
The mighty, the King, the King's Emperor, the traveller(s), the sculptor, the poet, the reader(s), those who think themselves powerful, nature, God(s).

E. I further asked some students to
Write out "Ozymandias" using normal word order. The verbal instructions invited them to use ordinary paragraph structure, to retain as much of Shelley's
Appendices (Page 3)

actual words as possible. Where for clarity's sake they felt they had to add or substitute words or punctuation of their own, I instructed them to parenthesize what was theirs as distinct from Shelley's. This exercise was not designed to get a full reading of the text--there is no substitute for the text for that. Rather it is designed to assess where the readers are aware of problems and how they approach them; it also reveals where the readers unconsciously change the text or what changes they regard as too inconsequential to note.

F. Other students I asked to order in sequence of time these events:

- I met traveller
- Traveller went to antique land
- The statue was smashed
- The statue was made
- The motto was carved
- The sands covered the area around the pedestal.
Write out "Ozymandias" using normal word order; if need be, use other side of page.

I met a Traveler from an ancient land who said: "Two vast empires stand in the desert. Near them, on the sand, half sunk, a shattered visage lies, whose frown and wrinkled lip and sneer of cold command tell of its sculptor, from the passion read. Which shall survive? Stamped on these lifeless things, the hand that mocked them and the heart that fed them are gone. The only thing left on the pedestal are these words: "My name is Ozymandias, King of Kings: Look on my work ye Mighty and despair!" Nothing (else) besides remains. And round the decay of that colossal wreck, boundless and bare, the lone and level sands stretch far away from this place.
Rewrite II

Write out "Ozymandias" using normal word order; if need be, use other side of page.

I met a traveler from an antique land
Who said: Two vast and trunkless legs of stone
In the desert stand. Near them, on the sand,
Half sunk, a shattered visage lies, whose frown,
And wrinkled lip, and sneer of cold command,
Tell that its sculptor well those passions read
Which yet survive, stamped on these lifeless things.
The hand that mocked them, and the heart that fed;
And on the pedestal these words appear:
"My name is Ozymandias, King of Kings!"
(you) look on my works, ye mighty, and despair!
Nothing beside remains. Round the decay
Of the colossal wreck, boundless and bare
The lone and level sands stretch far away.

Write out "Ozymandias" using normal word order; if need be, use other side of page.

I met a traveler from an antique land
Who said:
In the desert stand two vast and trunkless legs of stone
On the sand near them, a visage lies, half
Sunk.
Whose source of cold command and
Frown and wrinkled lip,
Its sculptor, who yet survives, tell
Cuts passions read.
On these lifeless things stamped
Mocked by the least and the hand that fed
These words appear on any pedestal
These words appear on any pedestal
Ozymandias, King of Kings, is my name
Despair ye mighty, and look on my works
Despair ye mighty, and look on my works
Nothing remains beside
Round the decay of that colossal wreck
Far away stretch the lone and level
Sands, boundless and bare.
The following is a verbatim transcript of a student response to the question about whose hand and whose heart is referred to in line 8 of "Ozymandias." The italics are added.

---Ozymandias---

A possibility of reference to 'the hand that mocked them' might be Ozymandias' enemy, throwing slander at his kingdom.

I say that slander is involved because that of the word 'mocked,' which expresses one scorning another or making one look foolish.

', . . . , and the heart that fled;' (sic) suggests that this same hand was met by those whom it mocked, and thus fleeing from its present stance.

These two syllogisms together seem to me interpret as a cause and effect of conflict coming to war. This conflict being between Ozymandias' establishment and those at 'hand.' The end result being Ozymandias' victory, after his enemy flees.

This end result is phrased by the words on the pedestal, in that the wreckage there was once the 'fort' which sheltered his enemy.

*-

In addition to the facile imitation of uncomprehended professional language which I have italicized, one might also note the assimilations here. "Fed" becomes "fled;" the comma after "Fed" has become a semi-colon; and the hand which throws slander in the first paragraph has been reduced to quite a different (and rather less interesting) metaphor in the fourth. Notice, further, how scorning Ozymandias leads to the necessity for flight—which presupposes a war and a sheltering fort, which then must be that which was destroyed.
APPLICATION:

I. Consider what classification scheme these students are using:

A. q.1. "Them" refers to the people over which Ozymandias once ruled. Lines 6 & 7 refer to the sculptor (probably a slave) that portrayed in the stone the essence of the person who ruled him and his people. "Hand that mocked" and "Heart that fed" gives one the idea of a ruler having complete control over a group's lives.

2. The "hand" referred to is Ozymandias' hand. For as a ruler it is he who feeds his people and he who can treat them as he wishes -- even mocking them.

3. Literally, as in the inscription on the pedestal, despair means "fear me, for I am the best!" It serves another purpose in the poem, reflecting the despair this fallen King probably knew as the end of his reign as it is reflected in the broken stones.

B. q.1. Them refers to the two vast and trunkless legs of stone.

... The hand mocked the lifeless things; the heart fed them.

2. The hand is God's hand and the heart is also God's: "My name is Ozymandias, King of Kings: Look on my works, ye mighty, and despair." God has sculptored the world in his image and has given man a heart by redeeming sins.

3. God expects us to despair or in other words repent our sins; it shows us that He is almighty and we are only creatures created by him.

C. q.1. The artist that discriminated his work referred to as the broken sculpture pieces.

2. The artist, who develops the work, who puts feeling in it.

3. To destroy a piece of work by people who do not understand it.

D. q.1. The followers or worshippers of the statue or idol.

2. The people's hand, who made the likeness. The heart of him that fed the people in faith.

3. The worshippers civilization is gone and the statue is by itself.

E. q.1. The parts of a statue of some conceded (conceited?) king.

2. The kings enemies hand, their hearts hungry for his blood.

3. The traveller may have been one of the kings followers and is in misery for his loss.
Application (Page 2)

F. q. 1. "Them" could be referring to Nature who the artist is trying to imitate.

2. The hand in line 8 might refer to Nature's force which with Time will even destroy man's great works.

3. No matter how hard man tries he can never withstand Nature.

II. Seriation:

Asked to order the events of the poem in chronological sequence, students came up with these orders. What ordering principle seems most common.

A. 1. The sculptor made the statue
2. "Look on my works..." was carved on it
3. Boundless desert surrounds the place where statue was erected
4. Statue was destroyed
5. I met the traveller
6. Traveller went to antique land. (4 students)

B. 1. The sculptor made the statue
2. The motto was carved
3. Boundless desert surrounds the place where the statue was erected
4. Statue destroyed
5. Traveller went to antique land
6. I met traveller (3 students)

C. 1. Desert surrounds place where statue erected
2. Sculptor made statue
3. "Look on ..." carved
4. Statue destroyed
5. Traveller went to antique land
6. I met the traveller (2 students)

D. 1. Statue made
2. Statue destroyed
3. "Look on..." carved
4. Sand surrounds site
5. Traveller went
6. I met traveller (1 student)

E. 1. I met traveller
2. Traveller went
3. Statue made
4. "Look on..." carved
5. Statue destroyed
6. Sand surrounds site. (1 student)

F. 1. Statue made
2. "Look on..." carved
3. Statue destroyed
4. Sands surround site
5. Traveller went
6. I met traveller (2 students)
References:


2. G & E: Jean Piaget: Genetic Epistemology


   (Patterson, Littlefield Adams & Co.) 1964.