

# Approaches to Successful Learning: The Perry Scheme of Intellectual Development

**William J. Rapaport**

Department of Computer Science & Engineering,  
Department of Philosophy,  
and Center for Cognitive Science

 **University at Buffalo** *The State University of New York*

[rapaport@cse.buffalo.edu](mailto:rapaport@cse.buffalo.edu)

<http://www.cse.buffalo.edu/~rapaport>

# My Credentials

- Bachelor's in math
- Masters' in philosophy & in computer science
- Ph.D. in philosophy
- Taught 7th grade → Ph.D. students & faculty
- Taught math, philosophy, computer science, cognitive science, even English composition!



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      - Talking to your boss about your work
      - Making oral presentations to colleagues

## 4 Approaches to Successful Learning

- All 4 used by everyone
  - At different times in life
  - In different areas of life
  - Sometimes simultaneously
- Some are more appropriate for some people in some circumstances
- Identifying a student's approach can help you to help the student

- Remember...

- what it was like for you to be a student
- which teachers you had who were:
  - good (do what they did)
  - bad (don't do what they did)\*

\*Cf. Ben-Al, Sarah (2004), “Don’t Be That Guy”, *Chronicle of Higher Education* (Aug. 13): C3



## FAMILY CIRCUS



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"I can't wait till I'm in the eighth grade and know all there is to know."

# The Perry Scheme

- William Perry:
  - head of counseling, Harvard, 1950s
- “What stands out for you over the last year?”
- Discovered 9 “positions” from which students viewed knowledge & learning
- Has been replicated & adjusted
  - Cf. Belenky et al. (1986), *Women’s Ways of Knowing*





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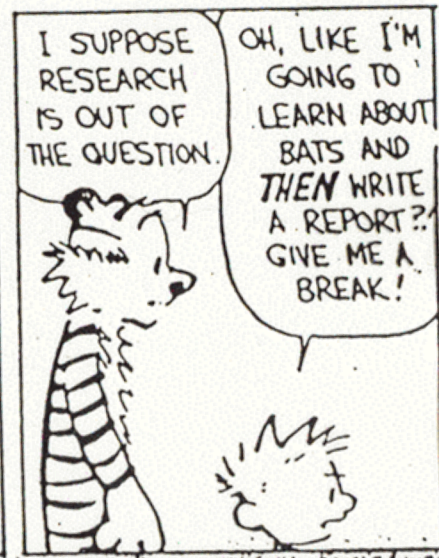
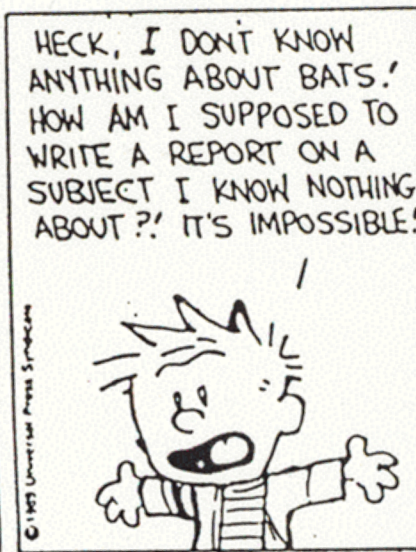
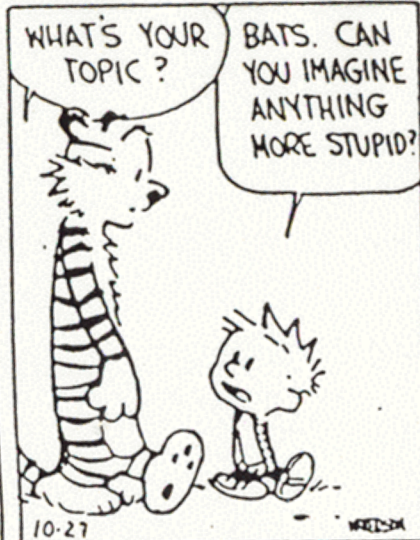
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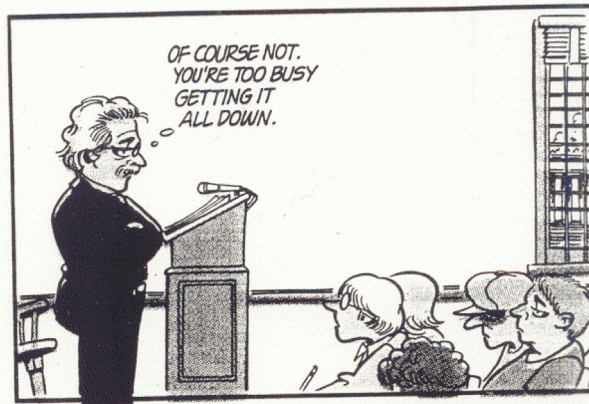
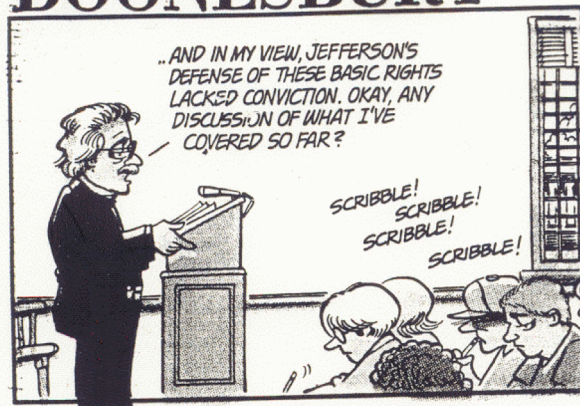
- Some authorities (literature, philosophy) disagree
- Others (science, math) agree
- ∴ There are correct solutions  
but some teachers' views are obscured
- Student's task = to learn right solutions
  - And ignore others?

# CALVIN & HOBBS

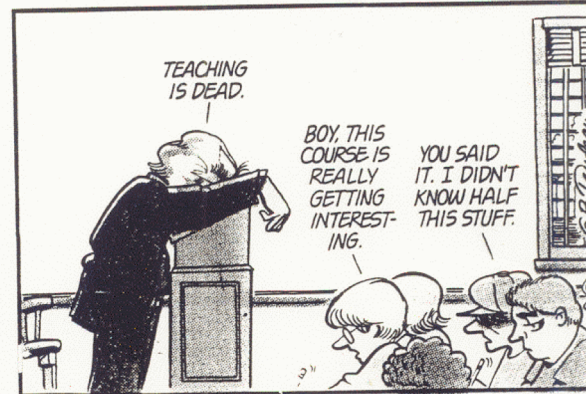
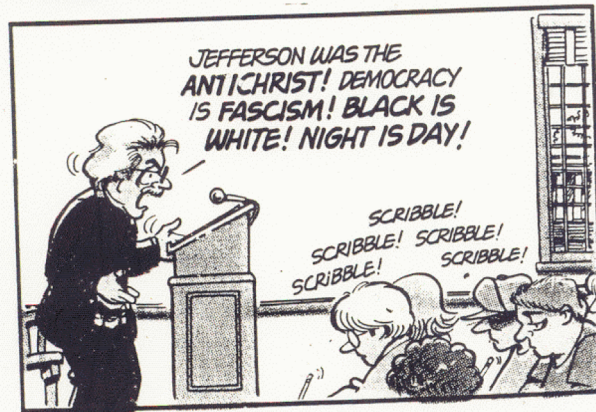
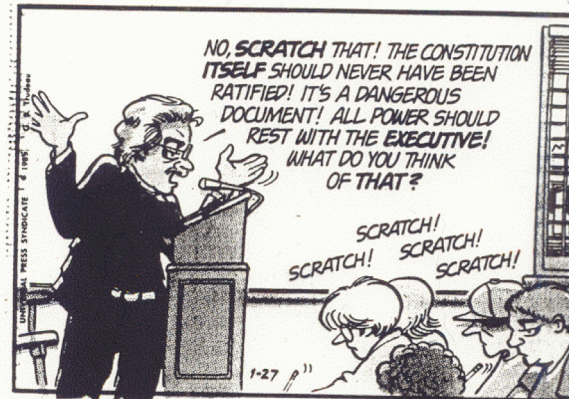
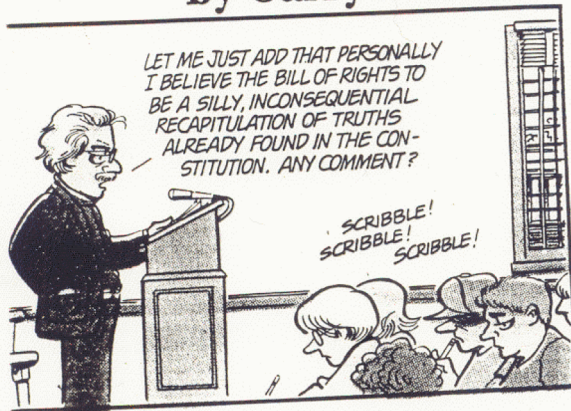




# DOONESBURY



by Garry Trudeau



# For dualistic students ...

- Instructor:
  - Seen as the only legitimate source of knowledge
- Themselves:
  - Seen as receivers & demonstrators of knowledge
- Other students:
  - Not seen as legitimate sources of knowledge
- On evaluation:
  - Wrong answer = bad person
  - Evaluation should be clear-cut
- Support:
  - Need high degree of structure
    - Dualistic students like lectures, hate seminars

# Voices of Dualism

- Cornell undergrad (NY Times):
  - “Every lecture course, no matter how bad, has taught me more than any seminar, no matter how good. In a lecture, you get taught by an expert, which means the information is credible. But in a seminar, most of the information is from other students like yourself, which leads to discussion that is irrelevant & suspect in accuracy. [In seminars,] profs don’t like to tell students directly that they are ‘wrong,’ [or] ‘correct,’ so one can leave a seminar confused & not knowing any more than when one entered.”
- Dualism confronted by Multiplism
- Alienation?



## Voices of Dualism (continued)

- “I’m lost in CS 341 [computer architecture];  
**the professor lacks a clue.**”
  - I.e., it’s the prof’s fault; he’s the Authority

## Are Science Disciplines\* Dualistic?

- Leon Henkin (math, UC/Berkeley): NO!
  - “One of the big misapprehensions about math that we perpetrate in our classrooms is that the teacher always seems to know the answer to any problem that is discussed.
  - “This gives students the idea that there is a book somewhere with all the right answers to all of the interesting questions, & that teachers know those answers, & if one could get hold of the book, one would have everything settled.
  - “That’s so unlike the true nature of math”
    - \* Or science, or engineering, **or health professions!!**



**B. Multiplicity/Subjective Knowledge:**  
**There are conflicting answers;**  
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### **3. Early Multiplicity**

- There are 2 kinds of questions (a kind of dualism):
  - Those with answers that we know **now**
  - Those with answers that we don't know **yet**
- Most knowledge is known.
  - There are **right/wrong ways** to find answers to the other questions (another kind of dualism)
  - Student's task =  
to learn **right ways to find** correct solutions

## Sally Forth

HOW DID YOUR TALK  
WITH HILARY GO?

I WISH I COULD  
SAY SOMETHING  
THAT WOULD MAKE  
HER HAPPY ABOUT  
SCHOOL...



BUT SHE KEEPS  
TELLING ME HOW SHE  
HAS NO FRIENDS AND  
I KEEP SEARCHING IN  
VAIN FOR THE RIGHT  
THING TO SAY.



YOU CAN'T ALWAYS HAVE  
THE SOLUTION, SAL.

MAYBE, BUT  
I HAVE TO LET  
MY DAUGHTER  
KNOW ONE  
EXISTS.



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*"I still don't have all the answers, but I'm  
beginning to ask the right questions."*

• •

# For early multiplists ...

- Instructor:
  - Seen as source of right way to get knowledge
- Themselves:
  - Seen as learning how to learn
  - Seen as working hard
- Other students:
  - Seen as in the same boat  $\therefore$  OK
- On evaluation:
  - Of central concern
  - Quantity of work counts
  - Fairness is important
- Support:
  - from peers, some structure



## Voices of Dualism Confronted with Multiplism

“I really enjoyed this course. I had lots of trouble till about 2/3 into the course, because **I was looking for answers.** Once I realized **there were no answers & you had to figure things out for yourself,** it became easier.”

Voices of Dualism confronted with Multiplism (continued):

“TAs should use the Prof’s method of solving problems rather than using their own, which confuse us more, but if the method is simpler & easier to understand, then it’s OK, I guess, to introduce their own method of solving.”

## Voices of Multiplism

“You know, it seems to me that there are 2 different kinds of things we study—things where there are answers & things where there aren’t any!”

Voices of Multiplism (continued):

“There are many of us students who spend from 3–9 hours working on one lab assignment. When we get our grades back, they don’t meet our satisfaction. I spend a lot of time thinking, & trying out my program. When I get a D, I get upset. Maybe **the grade should include more effort than if the program runs properly.**”

– quantity is more important than quality

## 4. Late Multiplicity

### a) Less cynical form:

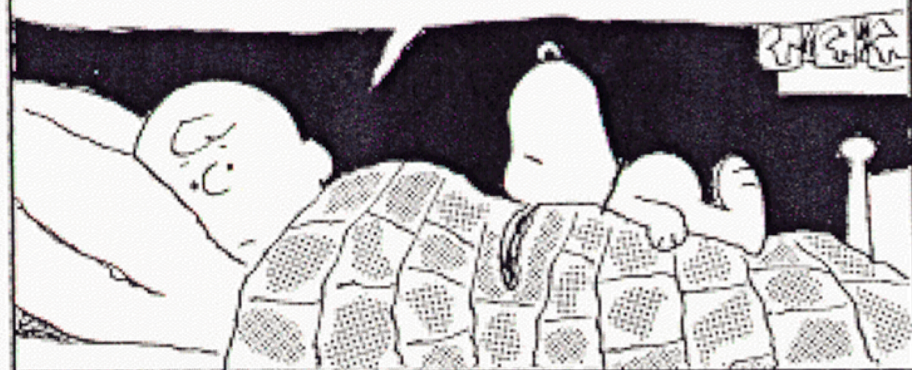
- Most problems have no known solution
- ∴ Everyone has a right to their own opinion

### b) More cynical form:

- Some problems are unsolvable
- ∴ Doesn't matter which (if any) solution you choose
- Student's task = to B.S.
- Most freshmen?

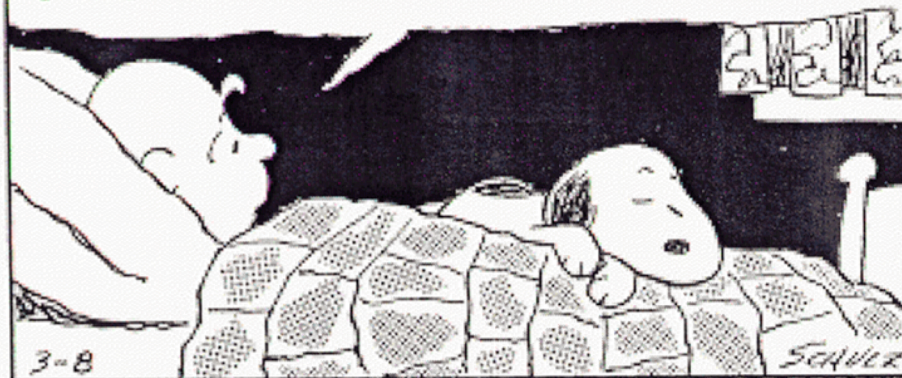


SOMETIMES I LIE AWAKE AT NIGHT, AND I ASK, "IS LIFE A MULTIPLE CHOICE TEST OR IS IT A TRUE OR FALSE TEST?"



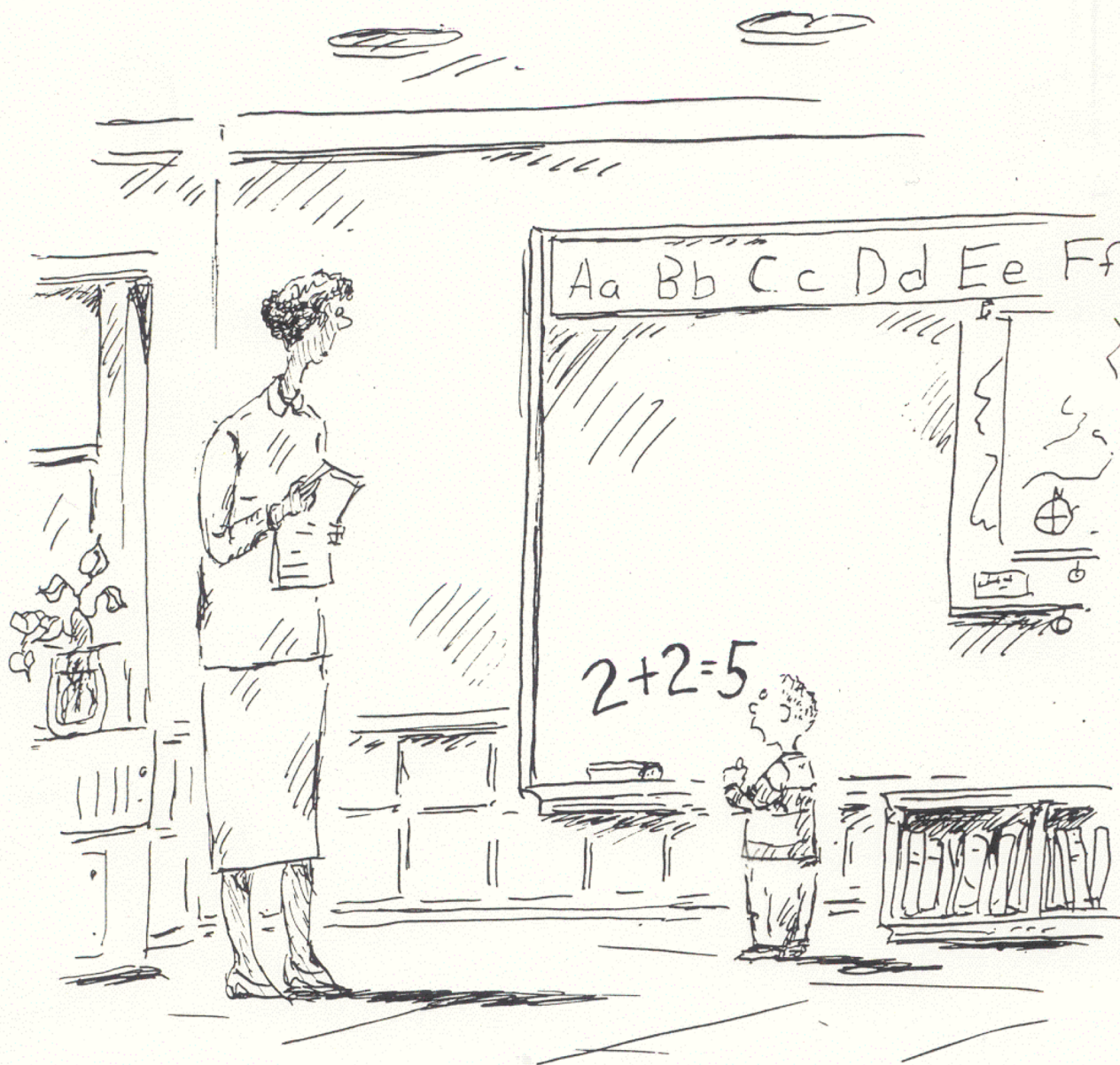
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THEN A VOICE COMES TO ME OUT OF THE DARK, AND SAYS, "WE HATE TO TELL YOU THIS, BUT LIFE IS A THOUSAND WORD ESSAY"



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B. Smaller

*"Maybe it's not a wrong answer—maybe it's just a different answer."*



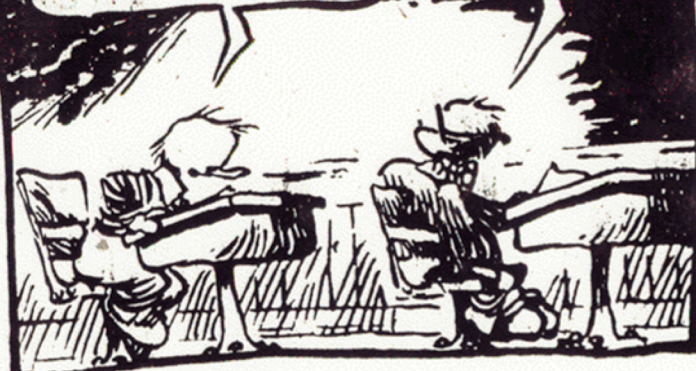
SHOE

HOW DID YOU EVER  
ANSWER THAT LAST  
QUESTION?...

OH, I JUST  
MADE IT UP.

WHY DID YOU  
DO THAT?

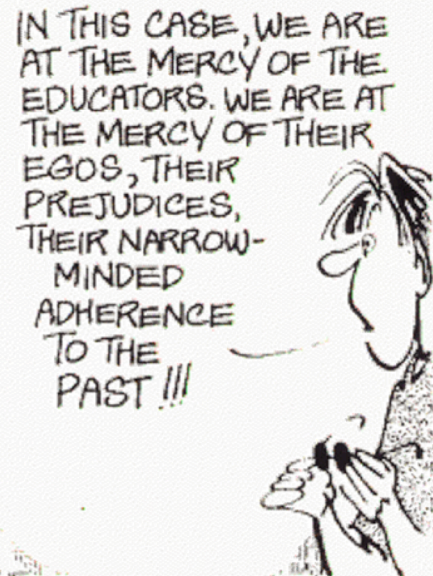
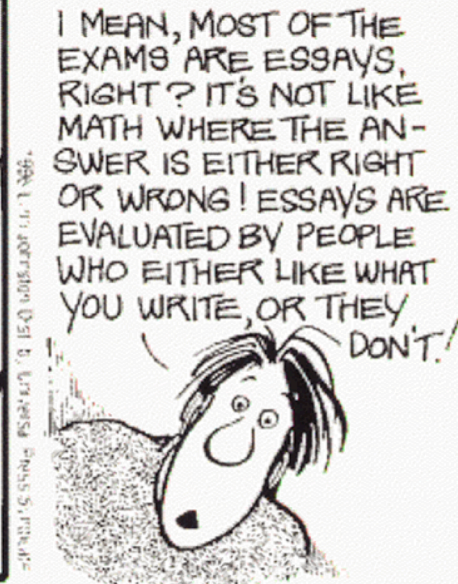
WELL, I LIKE  
TO BE SURE OF  
MY SOURCES.



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GAIL V. EORTH





# Late Multiplists ...

- Instructor:
  - Seen as source of the thinking process,
  - Or else (cynical form) seen as irrelevant
    - everyone's entitled to own opinion (\*)
- Themselves:
  - Seen as learning to think for themselves
  - Seen as expressing opinions
    - whether believed/supported or not
- Other students: Seen as legitimate (but: \* )
- On evaluation:
  - Independent thought deserves good grades...
  - Or (cynical form): “I’ll do what they want”
- Get support from: diversity; lack of structure
  - Late multiplists hate lectures, like seminars



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Why does everyone else get it? I feel stupid.”

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  - Dislike of dualism!
  - Late multiplism → Contextual Relativism?

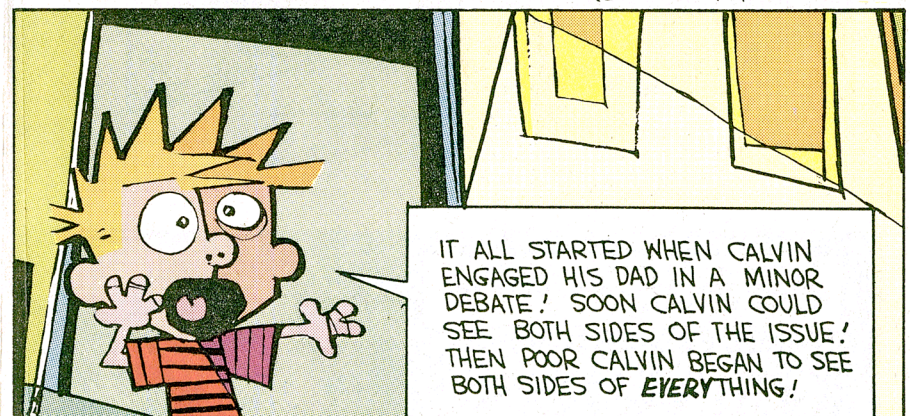
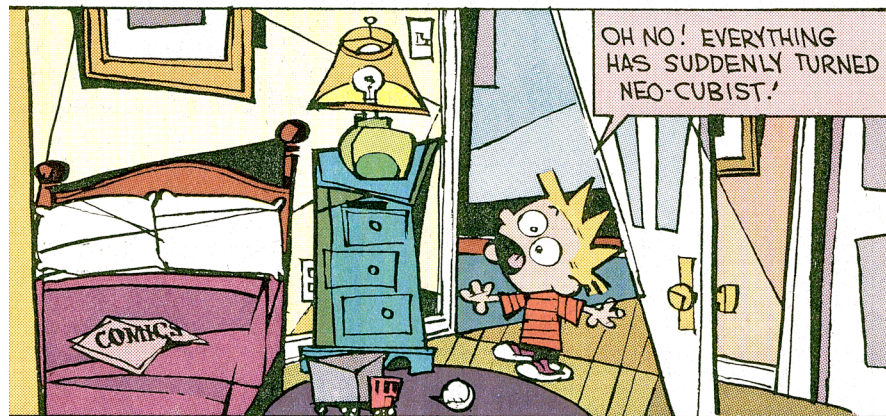
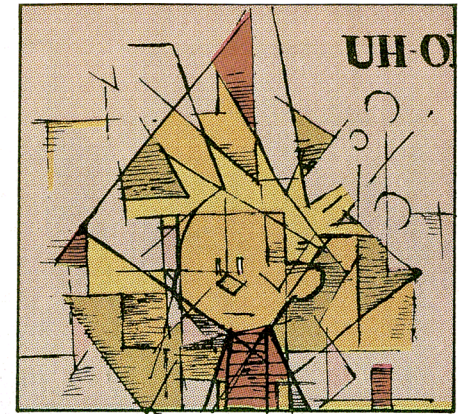
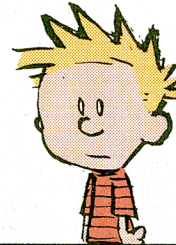
# Possible Response to Multiplism: ALIENATION

- leading to:
  - retreat to earlier, “safer” position:
    - “I’ll study math, not literature, because math has clear answers & not as much uncertainty”
- or to:
  - escape: drop out:
    - “I can’t stand college; all they want is right answers”
  - OR
  - “I can’t stand college; no one gives you the right answers”

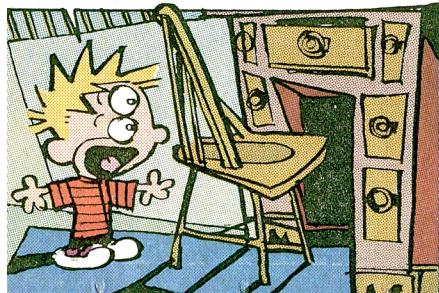


# calvin and hobbes

by WATKINSON

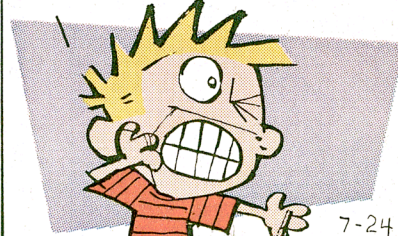


THE TRADITIONAL SINGLE VIEWPOINT HAS BEEN ABANDONED! PERSPECTIVE HAS BEEN FRACTURED!

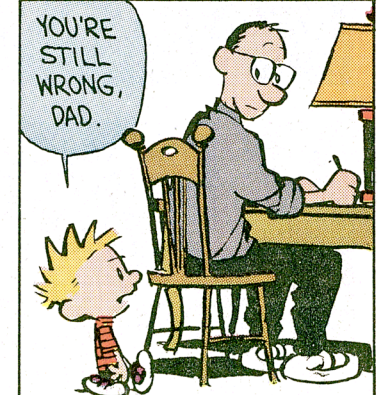
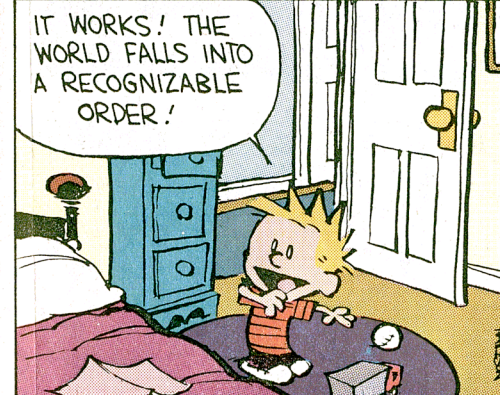


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THE MULTIPLE VIEWS PROVIDE TOO MUCH INFORMATION! IT'S IMPOSSIBLE TO MOVE! CALVIN QUICKLY TRIES TO ELIMINATE ALL BUT ONE PERSPECTIVE!

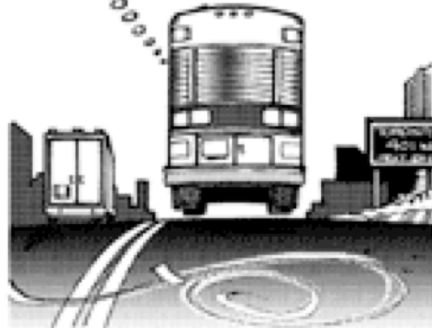


7-24





SO THIS IS WHAT IT'S LIKE TO BE AN ADULT... FIGURING OUT WHO YOU ARE, WHERE YOU BELONG, WHAT YOUR GOALS ARE, WHERE YOU FIT IN.



6-7 www.fboorfw.com

I'M SO DIFFERENT NOW. I ANALYZE MY ACTIONS, I ANALYZE OTHERS, I TRY TO THINK AHEAD... BE ORGANIZED.



I DON'T DEPEND ON ANYONE FOR MY INCOME OR TO MAKE DECISIONS FOR ME. I'M A MATURE, RESPONSIBLE ADULT.



**DADDY!!**



## 5. Contextual Relativism

- All proposed solutions must be supported by reasons
  - I.e., they must be viewed in context and relative to their support
- Within a context, there are:
  - Right/wrong (better/worse) answers
  - Rules for good thinking
- Student's task = to learn to evaluate solutions
- Where we'd like most students to be.

# Contextual relativists ...

- Instructors:
  - Seen as source of expertise ...
  - as long as they follow contextual rules for good thinking
- Themselves:
  - Seen as studying different contexts
  - Seeing different perspectives
- Other students:
  - Legitimate if they follow contextual rules for good thinking
- On evaluation:
  - Evaluation of work  $\neq$  evaluation of self
  - Evaluation is part of learning
- Get support from:
  - Instructor
  - Diversity

## Voice of Multiplism Confronted with Contextual Relativism

- Comp Sci junior/senior in freshman discrete math:
  - “Since the material tends to be subjective, it helps to see the reasoning of another person sometimes.”

# **Voices of Contextual Relativism**

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- Cliff Stoll @ UB:
  - “The answer is Markus Hess; now go home.  
If you’re only interested in the **solution**, leave.  
If you’re interested in good science  
& want to know **how I solved the puzzle**, stay.”



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- Einstein:
  - “The **search** for truth is more precious than its possession.”



- What category am *I* in?

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  - Dualistic question!

- What category am I in?
  - Dualistic question!
- How many people are in each category?



- What category am I in?
  - Dualistic question!
- How many people are in each category?
  - Multiplistic question!

- If teacher is at Perry position  $N$ ,  
& student is at Perry position  $N-2$ ,  
then student will not understand teacher!
  - because...

# **Students Make Their Own Meaning:**

## **What Teachers Say vs. What Students Hear**

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# Students Make Their Own Meaning: What Teachers Say vs. What Students Hear

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  - Why bother with the wrong ones?
- **Multiplist:**
  - Only 3? Heck, I can think of a dozen!
- **Contextual relativist:**
  - What principles underlie the 3 methods?
  - Which is the most successful?
  - Which should I use on this patient?

If students make their own meaning,  
how can you help them?

- **Find out the students' Perry positions**
  - What was your favorite/least favorite class?
    - Why?
  - OR: just listen!
- **Then: Help them move to the next position!**

# Your Goals as Teacher

- To challenge students,
  - So that they will move from dualism to multiplicity to contextual relativism (& beyond)
- To support students,
  - As they move from the “comfort” of one approach to the strangeness of another

## Example

- “How long should the paper/project be?”
  - Dualistic question!
- ∴ Give a justified length  
challenge support





# Differential Assignments

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+ **either** (a) a **description** of one essay on TT in  
*Mind's Eye* [Dualistic assignment]

# Differential Assignments

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+ **either** (a) a **description** of one essay on TT in  
*Mind's Eye* [Dualistic assignment]  
**or** (b) **your reply** to the following objection  
to TT: (...) [Multiplistic assignment]



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- **Support:** Student chooses least threatening option

- **Challenge:** 2nd assignment = Do “next” alternative

# Dualism → Multiplism

- Design situations that invite Dualists (R/W thinkers) to:
  - **experience multiple conflicting/alternative views**
  - **using high degree of structure to present each view**
    - syllabus
    - explicit assignments with due dates
    - outline of each class
    - handouts with requirements, hints
  - Have students **compare/contrast, explain answers, analyze**
  - If a student rejects a view,  
have student be **concrete** about **basis for rejection**

### Dualism→ Multiplism (cont'd)

- Help students develop strategies to pick out major concepts or most relevant information in a section of text:
  - **challenge:** learning how to learn  
(rather than learning answers)
  - **support:** there are “correct” answers as to what’s important

# Multiplism → Contextual Relativism

- Design situations that invite Late Multiplists (all opinions are OK) to:
  - **encounter multiple views**
  - **evaluate their relative merits**
    - via **own experiences (biographies, stories), others' experiences (small groups)**
  - **explicitly identify bases for disagreements among authorities/views**
  - **use low degree of structure**
  - **let students take responsibility for structuring own learning:**
    - negotiate syllabus, course content, due dates
    - individual contracts, use teacher as resource



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## **8. Challenges to Commitment:**

- Student experiences implications of choice
- Student explores issues of responsibility
  - E.g., write & defend dissertation

## **9. Student realizes commitment is an ongoing, unfolding, evolving activity**

- E.g., you become a researcher
- John A. Wheeler (physicist):
  - “We live on an island of knowledge surrounded by a sea of ignorance. As our island of knowledge grows, so does the shore of our ignorance.”
- **All “Perry positions” are sometimes repeated!**

# Brief Overview of the 4 Approaches to Learning

## **2. Full Dualist**

- all questions have answers
- some teachers know right answers & teach them
  - others don't, but teach them anyway
- student must learn right answers
  - and ignore others

## **3. Early Multiplist**

- some questions have known answers
  - others have not-yet-known answers
- teachers know right ways to get answers
- students must learn how to find right answers

## **4. Late Multiplist**

- most questions have no known answers
- teacher is source of thinking process OR is irrelevant
- student must learn to think for self (everyone has right to own opinion)  
OR doesn't matter which answer you give

## **5. Contextual Relativist**

- Answers must be supported by reasons
- Within a context, there are better/worse answers
- Teachers & students must follow rules for good thinking
- Students must learn to evaluate solutions

# The Perry Scheme, Self-Referentially

- **Dualist:**

- The Perry scheme is the best way of thinking about college students. Someone has finally told us how to make students change in the right ways.

- **Multiplist:**

- Well, it's some people's way of talking about student growth and development, and they have a right to their own opinion, I suppose.

- **Contextual Relativist:**

- It is one of a relatively few student-development models based on data collected in a fairly unbiased manner over many years.

- **Commitment:**

- I have found the Perry scheme, integrated with other theories, extremely helpful to me as I try to interpret the behavior of people around me, as I think of my goals as an educator, and, especially, as I interact with my students.

- The Perry scheme attempts to analyze assumptions about knowledge, self, and values such as those implicit in the 4 descriptions above and in the ability to write this last sentence.

– Larry Copes

# Summary

- Hear your students' voices:
  - where are they're coming from on the Perry scheme?
  - then:
    - you can reply with answers that challenge and support
    - you can design assignments/experiences that help them journey along the Perry positions
- Be flexible:
  - try different teaching styles...
  - ... to **support** your students...
  - ... to **challenge** your students...
    - ... and yourself!



## FOR BETTER OR WORSE





Further reading:

- **W.G. Perry's 2 main works:**
  - *Forms of Intellectual & Ethical Development in the College Years* (Holt, Rinehart, Winston, 1970)
  - “Cognitive & Ethical Growth”, in Chickering, *The Modern American College* (Jossey-Bass, 1981).
- **An interesting follow-up study:**
  - Belenky, M.F., et al. (1986), *Women's Ways of Knowing* (Basic Books).
- **Good general introduction & application to science teaching, with many useful further references:**
  - Finster, D.C., “Developmental Instruction”, *Journal of Chemical Education* 66 (1989): 659-661 and 68 (1991): 752-756.
- **Two of my own papers:**
  - Rapaport, W.J. (1982), “Unsolvable Problems & Philosophical Progress”, *American Philosophical Quarterly* 19: 289–298.
  - Rapaport, W.J. (1984), “Critical Thinking & Cognitive Development”, *Proceedings of the American Philosophical Association*. 57: 610–615.
- **For further information, go to:**
  - <http://www.cse.buffalo.edu/~rapaport/perry.positions.html>