

MISTAKE MYSTIQUE

R. Buckminster Fuller

"What do you think is the greatest challenge facing young people today as they prepare to assume their caretakership of this world?" was the question recently asked of me by a midwest high school.

From my viewpoint, by far the greatest challenge facing the young people today is that of responding and conforming only to their own most delicately insistent intuitive awarenesses of what the truth seems to them to be as based on their own experiences and not on what others have interpreted to be the truth regarding events of which neither they nor others have experienced-based knowledge.

This also means not yielding unthinkingly to "in" movements or to crowd psychology. This involves assessing thoughtfully one's own urges. It involves understanding but not being swayed by the spontaneous group spirit of youth. It involves thinking before acting in every instance. It involves eschewing all loyalties to other than the truth and love through which the cosmic integrity and absolute wisdom we identify inadequately by the name "God" speaks to each of us directly -- and speaks only through our individual awareness of truth and our most spontaneous and powerful emotions of love and compassion.

The whole complex of omni-interaccommodative generalized principles thus far found by science to be governing all the behaviors of universe altogether manifest an infallible wisdom's interconsiderate, unified design, ergo an a priori, intellectual integrity conceptioning, as well as a human intellect discoverability.

This is why youth's self-preparation for planetary caretakership involves commitment to comprehensive concern only with humanity's welfaring; all the experimentally demonstrable, mathematically generalized principles thus far discovered by humans, and all the special case truths as we progressively discover them -- the universally favorable synergetic consequences of which integrating commitments, unpredictable by any of those commitments when they are considered only separately, may well raise the curtain on a new and universally propitious era of humans in universe.

By cosmic designing wisdom we are all born naked, helpless for months, and though superbly equipped cerebrally, utterly lacking in experience, ergo utterly ignorant. We were also endowed with hunger, thirst, curiosity, and procreative urge. We were designed predominantly of water -- which freezes, boils, and evaporates within a miniscule temperature range. The brain's information-apprehending, -storing, and -retrieving functions, as the control centers of the physical organisms employed by our metaphysical minds, were altogether designed to prosper initially only within those close thermal and other biospheric limits of planet Earth.

Under all the foregoing conditions, whatever humans have learned had to be learned as a consequence only of trial-and-error experience. Humans have learned only through mistakes. The billions of humans in history have had to make quadrillions of mistakes to have arrived at the state where we now have 150,000 common words to identify that many unique and only metaphysically comprehensible nuances of experience. The number of words in the dictionary will always multiply as we experience the progressive complex of cosmic episodes of Scenario Universe, making many new mistakes within the new set of unfamiliar circumstances. This provokes thoughtful reconsideration, and determination to avoid future mistake making under these latest given circumstances. This in turn occasions the inventing of more incisively effective word tools to cope with the newly familiar phenomena.

Also by wisdom of the great design, humans have the capability to formulate and communicate from generation to generation their newly evolved thoughts regarding these lessons of greater

experience which are only expressible through those new words and thus progressively to accumulate new knowledge, new viewpoints, and new wisdom, by sharing the exclusively self-discovered significance of the new nuances of thought.

Those quadrillions of mistakes were the price paid by humanity for its surprising competence as presently accrued synergetically, for the first time in history, to cope successfully on behalf of all humanity with all problems of physically healthy survival, enlightening growth, and initiative accommodation.

Chagrin and mortification caused by their progressively self-discovered quadrillions of errors would long ago have given humanity such an inferiority complex that it would have become too discouraged to continue with the life experience. To avoid such a proclivity, humans were designedly given pride, vanity, and inventive memory, which, all together, can and usually do incline us to self-deception.

Witnessing the mistakes of others, the preconditioned crowd, reflexing, says, "Why did that individual make such a stupid mistake? We knew the answer all the time." So effective has been the nonthinking, group deceit of humanity that it now says, "Nobody should make mistakes," and punishes people for making mistakes. In love-generated fear for their children's future life in days beyond their own survival, parents train their children to avoid making mistakes lest they be put at a social disadvantage.

Thus humanity has developed a comprehensive, mutual self-deception and has made the total mistake of not perceiving that realistic thinking accrues only after mistake making, which is the cosmic wisdom's most cogent way of teaching each of us how to carry on. It is only at the moment of humans' realistic admission to selves of having made a mistake that they are closest to that mysterious integrity governing the universe. Only then are humans able to free themselves of the misconceptions that have brought about their mistakes. With the misconceptions out of the way, they have their first view of the truth and immediately subsequent insights into the significance of the misconception as usually fostered by their pride and vanity, or by unthinking popular accord.

The courage to adhere to the truth as we learn it involves, then, the courage to face ourselves with the clear admission of all the mistakes we have made. Mistakes are sins only when not admitted. Etymologically, sin means *omission* where *admission* should have occurred. An angle is a *sinus*, an opening, a break in a circle, an omission in the ever-evolving integrity of the whole human individual. Trigonometrically, the sine of an angle is the ratio of the length of the side facing the central angle considered, as ratioed to the length of the radius of the circle.

Human beings were given a left foot and a right foot to make a mistake first to the left, then to the right, left again, and repeat. Between the over-controlled steering impulses, humans inadvertently attain the between-the-two desired direction of advance. This is not only the way humans work -- it is the way the universe works. This is why physics has found no straight lines; it has found a physical universe consisting only of waves.

Cybernetics, the Greek word for the steering of a boat, was first employed by Norbert Wiener to identify the human process of gaining and employing information. When a rudder of a ship of either the air or sea is angled to one side or the other of the ship's keel line, the ship's hull begins to rotate around its pivot point. The momentum of that pivoting tends to keep rotating the ship beyond the helmsman's intention. He or she therefore has to "meet" that course-altering momentum whose momentum in turn has again to be met. It is impossible to eliminate altogether the ship's course realterations. It is possible only to reduce the degree of successive angular errors by ever more sensitive, frequent, and gentle corrections. That's what good helmsmen or good airplane pilots do.

Norbert Wiener next invented the word *feedback* to identify discovery of all such biased errors and the mechanism of their over-corrections. In such angular error correction systems (as

governed, for instance, by the true north-holding direction sustained by the powerful angular momentum of gyroscopes which are connected by delicate hydro- or electrically actuated servo-mechanisms to the powerful rudder-steering motors), the magnitude of rightward and leftward veering is significantly reduced. Such automated steering is accomplished only by minimizing angular errors, and not by eliminating them, and certainly not by pretending they do not exist. Gyro-steering produces a wavelinear course, with errors of much higher frequency of alternate correction and of much lesser wave depth than those made by the human handling of the rudder.

All designing of the universe is accomplished only through such alternating angle and frequency modulation. The DNA-RNA codes found within the protein shells of viruses which govern the designing of all known terrestrial species of biological organisms consist only of angle and frequency modulating instructions.

At present, teachers, professors, and their helpers go over the student's examinations, looking for errors. They usually ratio the percentage of error to the percentage of correctly remembered concepts to which the students have been exposed. I suggest that the teaching world alter this practice and adopt the requirement that all students periodically submit a written account of all the mistakes they have made, not only regarding the course subject, but in their self discipline during the term, while also recording what they have learned from the recognition that they have made the mistakes; the reports should summarize what it is they have really learned, not only in their courses, but on their own intuition and initiative. I suggest, then, that the faculty be marked as well as the students on a basis of their effectiveness in helping the students to learn anything important about any subject -- doing so by nature's prescribed trial and error leverage. The more mistakes the students discover, the higher their grade.

The greatest lesson that nature is now trying to teach humanity is that when the bumblebee goes after its honey, it inadvertently pollinizes the vegetation, which pollinization, accomplished at 90 degrees to the bumblebee's aimed activity, constitutes part of the link-up of the great ecological regeneration of the capability of terrestrial vegetation to impound upon our planet enough of the sun's radiation energy to support regeneration of life on our planet, possibly in turn to support the continuation of humans, whose minds are uniquely capable of discovering some of the eternal laws of universe and thereby to serve as local universe problem solvers in local maintenance of the integrity of eternal regeneration of the universe.

In the same indirect way, humanity is at present being taught by nature that its armament making as a way to make a living for itself is inadvertently producing side effects of gained knowledge of how to do ever more with less and how, therewith, to render all the resources on earth capable of successful support of all humanity. The big lesson, then, is called *precession*. The 90 degree precessional resultants of the interaction of forces in universe teach humanity that what it thought were the side effects are the main effects, and vice versa.

What, then, are the side effects of knowledge gained by students as a consequence of the teacher's attempt to focus the students' attention on single subjects? It can be that all the categories of informational educational systems' studies are like the honey-bearing flowers, and that the really important consequence of the educational system is not the special case information that the students gain from any special subject, but the side effects learning of the interrelatedness of all things -- and thereby the individual personal discovery of an overall sense of the omnipresence and reliability of generalized principles governing the omnirelatedness -- whereby, in turn, the individuals discover their own cosmic significance as co-functions of the "otherness," which co-functioning is first responsible to all others (not self), and to the truth which is God, which embraces and permeates Scenario Universe.

The motto of Milton Academy, the Harvard preparatory school I attended, was "Dare to Be True." In the crowd psychology and mores of that pre-World War I period, the students interpreted this motto as a challenge rather than an admonition, ergo, as: "Dare to tell the truth as you see it and you'll find yourself in trouble. Better to learn how the story goes that everybody accepts and stick with that."

Ralph Waldo Emerson said, "Poetry means saying the most important things in the simplest way." I might have answered the school in a much more poetical way by quoting only the motto of 340-year-old Harvard University, "*Veritas*" (vere-i-tas), meaning progressively minimizing the magnitude of our veering to one side or the other of the star by which we steer, whose pathway to us is delicately reflected on the sea of life, and along whose twinkling stepping-stone path we attempt to travel toward that which is God -- toward truth so exquisite to be dimensionless, yet from moment to moment so reinformative as to guarantee the integrity of eternally regenerative Scenario Universe.

Veritas -- it will never be superseded.

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MISTAKE MYSTIQUE

MATCHING TEST

- | | | | |
|-----|-----|---|---|
| ___ | 1. | God | A. discovery of biased errors and the mechanism of their over-corrections |
| ___ | 2. | Sinus | B. reduce the degree of errors by ever more sensitive, frequent, and gentle corrections |
| ___ | 3. | Synergetic Scenario Universe | C. responsible to all others and to the truth which embraces and permeates |
| ___ | 4. | Cybernetics | D. capability to impound sun's radiation energy to support life |
| ___ | 5. | Feedback | E. progressively minimizing the magnitude of our veering from side to side |
| ___ | 6. | DNA-RNA | F. side effects are main effects |
| ___ | 7. | Pollinization | G. codes consisting of angle and frequency modulating instructions |
| ___ | 8. | Precession wisdom | H. cosmic integrity and absolute |
| ___ | 9. | Co-functioning commitments when considered only | I. consequences of integrating commitments unpredictable by any of those seperately |
| ___ | 10. | Veritas | J. an angle, a break, an omission |

MULTIPLE CHOICE

11. What does Dr. Fuller say is the greatest challenge facing us today?
- a. doing more with less
 - b. thinking before acting

- c. becoming aware of our own experience of truth
- d. all of the above

12. Humans have learned by:

- a. making quadrillions of mistakes
- b. determination to avoid future mistakes
- c. expressing new words, new viewpoints and nuances
- d. all of the above

13. To avoid becoming discouraged, humans have been given:

- a. self-deception, pride and ignorance
- b. pride, vanity and inventive memory
- c. helplessness and dependence at birth
- d. hunger, curiosity and a procreative urge

14. Realistic thinking occurs only after:

- a. making mistakes
- b. seeing the situation clearly
- c. social mores training
- d. observing other's mistakes

15. Co-functioning refers to:

- a. the ratio of the length of the side facing the central angle considered
- b. relationships developed in early childhood based on need because we are all born naked, helpless and without experience
- c. the interrelatedness of all things
- d. 90 degree resultants of the interaction of forces in Universe

BONUS QUESTION:

- 16. State simply and in a few words, why Cherie Clark is making you read this article:**