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Study Notes In NAS 2000. Native Philosophy.
Fall 1987. S. Kounosu.

Notes On The Epistemology Of Discrimination
And The Epistemology Of Liberation.

I. The Problems Of Social Recognition.

1. In most any society, there are Class Distinctions, and therefore there has to be Discrimination. Hence, even a famous Physicist, Michael Faraday had to practice saying, "Rain in Spain falls mainly on plain" before he was admitted into Royal Society London.

Speaking the "Proper English" was a mark of the Upper Class in British Society. That even the reputed Scientific Society had to insist on what we might today consider "Snobbism" is not unique to British. And preoccupation with Stylism, rather than the substance of learning and the capacity of creative thinking, is interesting for our considerations on Epistemology. It suggests that "Science" is perhaps a term of Praise and a tool of Class Distinction/Oppression, aside from its claimed virtues such as "Utility", "Rationality", and "Truth".

The easiest way to discriminate something is by what is visible on the surface. We do that, therefore, by color of skin, hair styles, ways of dress. Languages are another easy target. We discriminate against people by their accents. In academic context, writing stylism is very handy one. Substance, content, utility, messages are worst for discrimination. And by the time one "understands", discrimination becomes ineffective.

(There are reasons for some standards for the efficiency of communication in social scales. And there are problems concerning the "Meaning" that people intend to transmit or grasp, and "Understanding" that a community of people reaches through communication. I shall discuss this in later part of this note.)

2. Under ordinary circumstances, we are not critical enough to distinguish between "Knowledge" and "Expression of Knowledge". We think, if one knows, one ought to be able to express the knowledge in a proper form. We do not think stylisms, Rhetoric, etc., are important in Science. Nonetheless, we demand and judge "Knowledge" by the stylism,

like judging the contents by the containers-packages by which they are wrapped.

To learn what we are doing in this regard, let us consider the examples below:

We note that Native Americans knew of the cooperative interdependence among living organisms, trees, animals, and humans, etc. It so happened that a word "Symbiosis" was "discovered" by academic science in 1960s. The notion of Symbiosis is, of course, recognized as a part of Science.

Does the Academy Of Science credit Native Americans for the Discovery of Symbiosis? Of course not. But why?

One of rationalizations may be that Native Americans did not make "Knowledge Claim". Native Americans did not publish their knowledge in Academic Journals, nor did they present their knowledge to an adjudicating body such as Royal Society. Perhaps, Natives practiced saying "Rain in Spain falls mainly on plain", they might have had a chance for the recognition. But they did not.

3. In National Geographic Magazine [November, 1987] had an article about New Mexico. The article mentioned Dr. Fred Begay, who is a Navajo Indian. Dr. Begay thinks that the Myth about "Warriors Armed with Weapons of Light" suggests an ancient Navajo understanding of Laser Theory.

But there is a problem here. According to our standard "Ritual" of Knowledge Claim, such an "Understanding", even if existed, does not count as "Knowing". Because it was not expressed in a "proper format". One has to write it up and submit it to an Authority, Just as Land Claims are. Natives did not accept the Authority of Whitemen's Institutions. Therefore, there was no "Registration" submitted for Whitemen's Recognition. So it remains outside Science.

4. In Leslie Marmon Silko's Ceremony [Viking Press 1977. PS3569 I44 C4.] a Navajo Indian named Josiah gets cows of a hardy variety adaptable to the harsh climatic condition of the locality, instead of Holsteins that white ranchers around him raise. The idea is "scientific", but then the poor Indian is not an "Agronomist", had no school education, of course, nor Ph.D. Whatever he learned from his practical experiences is not recognized as "Science". One can be a "Good Samaritan", but cannot be a "Christian" unless one is formally labeled by the Church Authority.

5. Worse yet, I found a passage, in John R. Swanton's collection of Haida Myth, describing Copper Smelting. It is the "standard" knowledge among anthropologists and ethnologists that North American Natives had not known Smelting Technology. Mayans knew smelting, but Haidas were supposed to be ignorant. The problem is that the Native Informer apparently did not know the Smelting Technology and narrated it to Swanton as a Myth about "Copper Salmon". Swanton did not know Copper Smelting, and record the narration as a Myth and translated into English as such.

[Swanton. J.R. Haida Texts: Masset Dialect. "The Copper Salmon" Jesup Expedition vol.10, part 2. p.689. AMS Press 1975. Pl,1L274 Zg 1137.]

Because the "standard theory" dictated that Haidas were ignorant about copper smelting, the field worker was not alert to notice the story to be any more than an incomprehensible Myth. And because the famous Ethnologist said it is a Myth, Haidas themselves think it Myth. They think their ancestors had no Science.

To be sure Haidas today are well educated people. I am not surprised at all, if there are Ph.D. metallurgists among them. But the degrees came from schools in Euro American stylism. What schools teach as "Science" has a certain "Ritual" Stylism, which is not readily identifiable with the stylism of the Native narrations. It is hard to recognize what are hidden under the name of Myth.

6. Carlos Castaneda's stories are sold as "Stories". Does that mean readers cannot learn anything "Scientific" from them? Perhaps, many scholars and scientists would say Castaneda was "making up stories". It is a fiction, any way.

But, I wonder if the same scholars and scientists would say that Mathematics is just a "made up linguistic system" and hence "unscientific", for it is not concerned with "experimental facts", "observations" or anything "real". On the top of that, Mathematics is proved to be either inconsistent or incomplete by mathematics itself.

Newton's "Theory" of motions and Einstein's "Theory" of Gravitational Field are not "descriptions of facts", but rather aids to descriptions. Basically, they belong to Metaphysics.

What are, then, the differences between Castaneda's "Stories" and "Theories" in Physics or Mathematics?

Shall we say that one is recognized as "Science" by well established institutions of Science, and the other is not. Therefore, one is science and the other is not? If it were a political or religious matter, we might base our judgment on institutional authority. But is such a judgment itself "scientific"?

If not, what are the criteria? We use the term "Science" and "Scientific" frequently. But we do not have a set of clear specifications to judge if an Intellectual work is "Science" or not.

7. In the time of Colonialism, the British Empire had a great interest about China, and It produced "China Experts". Some of Cambridge Professors became famous for their knowledge on China. Their reputations and prestige were World Wide, and what they said about China was taken as "Truth", at least in Euro-American Academia. One of such dogmatic "Truth", until late 1960's, was that China never had Science. They acknowledged that China had "Technology" such as production of Paper, Gun Powder, Rocket, Water Clock, Mechanical Dolls, etc. "Technology" is something practical and useful for working people, but it is not "Science" that European Scholars and Intellectuals take serious. It takes a Superior Intelligence to do "Science". Naturally, Chinese could not have had "Science".

Today, it is not wise to make such a contemptuous statement about China. So the professors stop saying that. But there has been no sign that those professors repudiated the previous view on Chinese Science. They apparently did not revise their "definition" of Science.

Now, suppose some Native make a claim of "Native Science". What would be the reaction of the Experts? They may be polite and may not ask questions. But do they take Native Science serious? I doubt it.

8. Some 40% of medicines (chemical drugs) came from North American Native Herb Medicines. If one count Chinese Herb Medicines, the percentage would double. Does the "Medical Science" of ours recognize this? The North American Medical Profession would denounce Native Herb Medicine, being "Superstitious", if not dangerous.

The "Medical Science" does not know how a chemical works, for the majority of cases. It only knows "effects". Yet one is called "Science" and the other is called "Superstition". How the two medicines are distinguished and discriminated?

It goes back to Stylism. One refined by test tube type chemical processes is the "Scientific Medicine". One that is used in forms closer to the Natural state is the "Superstition Medicine". The differences in Stylisms are far from trivial.

(To be sure, some medical doctors are honest enough to call Medicine an "Art". But the people in this "culture", in general, would be frightened to hear such a statement. They much rather "Believe" blindly in "Medical Science". That is, those people who use the term "Science" are rather Superstitious.)

9. These are but a few examples of how Native Science is hidden from our recognition. And the "Recognition" has to do with "Social Status". Practical people wishing to achieve a certain practical result would not and could not care less whether what they use is called "Science" or not. It does not bother them much.

And, that the Academia to be incompetent in recognizing Native Science may be a trivial matter. The Academia is fragmented to hundreds of small specialties. And scholars and scientists today have to compete within those specialty. They could not care less, if they do not know something, other than what gives them advantage in their competition.

But, if we are to consider the "Understanding by a society as a whole", the matter is very serious. In the Political Economics of ours, "Recognition" is an important element. It defines "Reality". And social scale cooperations of people must be based on the "Reality" as such. That some of "Recognition" is like the value of stocks just a matter of "Face Value" does not prevent them from being "Significant" and being taken seriously. And, for the "Understanding" that a society or a community makes up by communication, Language Expressions are critically important. What are talked about in a society represents the "Intelligence" of the society.

Sticks and stones only hurt you personally, but "Names" (language expressions) could kill a Society.

The above examples point the need of a critical examination of what we mean by the word "Science". A simple act of uttering two words "Native Science" is a Political Act. Our Society can either reject it in laughing, or pay serious attention. In either case, the consequences are not trivial.

II. What is the difference between "Science" and "Practical Know-How"?

10. One outwardly visible feature of "Science" is that it is "Refined" in its articulation. And since the establishment of Scholasticism in the Middle Ages, the "Refine" meant "In Writing".

[For Science in the Middle Ages, see; D.C. Lindberg (ed.) Science In the Middle Ages. U. of Chicago Press 1978. Q174.97 S35. W. A. Wallace Prelude To Galileo Boston Studies In The Philosophy Of Science vol.62. D. Reidel Press 1981. Q175 873. D.C. Lindberg and R.L. Numbers. God And Nature U. of Calif. Press 1986. EL245 G53.]

That is, what is not written (printed) is not "Science". The "Oral Tradition" of Natives is therefore excluded from Science as such. Today, under the rule known as "Publish or Perish", it is extremely difficult to survive as a "scientist" without producing written statements. One might teach science, through experiments and oral communication, but one has to "edify" the teaching by some written materials. Even in this essay, I had to quote books published to impress upon you that I am doing a "Scholarly Work". Whether or not you are duly impressed, that is the academic ritual.

Book Knowledge counts far more significant than personal experiences, observations, and thinking. And everybody in academia knows that citing of Big Names is very effective weapon, if one wishes to be taken serious. Quoting diary of one's grandmother does not fare well in academia, and, I imagine, quoting some obscure Indian woman is not too much better than that. The assumption is that, if it is important at all, some Big Name Scholar must have picked up and published somewhere. That one does not quote from the Big Name can only mean ignorance.

11. But, in the History of Science, until very recently, private letters were important media of scientific and scholarly communication. One can see, in recent publications, scientists like Newton, Leibniz, Faraday, Einstein, Cartan, et al used private letters for important scientific communication. They could not quote Big Names,

because what they were "creating" were not known by the Big Names of previous ages. Besides, intellectuals such as Voltaire, Hegel, Mill, Goethe, et al, all had intense interests in Mechanics, Differential Calculus, etc., and apparently learned these things in private meetings (parties) through oral means. Interestingly, Voltaire, in particular, learned Newtonian Calculus-Mechanics from his Lady patron, Emilie Marquise du Chatelet. One can get some glimpse of the "Learning Through Conversation", by reading "Dialogues" by Galileo, Diderot, et al. There, apparently, Oral Tradition was alive and playing an essential role in the development of Science (though today we can only read them to guess how it was.)

[D. Diderot. The Dream of D'Alembert 1769. Neveu de Rameau 1761. G. Galilei Dialogue Concerning New Science. 1632.]

Today, thanks to the advancement in Printing Technology, we have almost killed the Oral Tradition in Science. At least, for formal recognition on Knowledge Claim, one has to have Printed Evidence.

12. One might say that this requirement of Printed Statements is a consequence of "Socialization" of Science. Science today is a "Profession", not a "private" matter. Besides, Science today takes a huge financial backing, so much so that if one is not supported by "grants", one is liable to be judged "unscientific". The prestige of scientists are often measured by the Dollar Value of the grants they receive.

Science Native Americans did not get "Research Grant" to do their Science, and often they did not print their findings, it is likely that the Natives are Judged as "Unscientific". I wonder, if the Natives themselves think of "science" and judge their scientists by the Money Value. It used to be said in the North America, "If you are so smart, how come you are so poor". Since, Natives see themselves "poor", therefore they might think that they are not smart enough to do Science.

This is a Politico-Economy of Science today.

13. There remains an Epistemological question concerning the relations among "Expressions in Language", "Knowing", and "Understanding". This is a question in Hermeneutics.

[See: Paul Ricoeur Hermeneutics And Human Science. Cambridge U press 1981.]

We note that in Euro American Culture, "Knowing" is only recognized by "Expression in Language" (Symbolisms, Signs, inclusive). And "Understanding" is reduced to insignificance, relative to the "Expression".

We are not quite sure what are the differences between the people who knows Newton's Equation for Gravitation (or Einstein's Equation for the same) and people who competently move themselves and objects in the Gravitational Field.

The former is deemed to have Knowledge, in "Scientific" sense. The later has the skill to perform the task of moving, but is deemed to be ignorant. It matters little in terms of having the honor title of Knowledge, if one is able to break the Olympic Record in spectacular high jumping.

But then, spectacular high flight to Moon by a Rocket is said to be "Scientific". I suppose the difference is that for the High Jump, we normally use little "language expression", whereas for High Space Flight, we imagine many, many Formulas are used.

However, we note that no Formula in Physics has "Understanding" of Gravity. In fact, the majority of human race seems to get less understanding when more Formula are used. Natives who had to survive in "raw" Nature appear to have had better "Understanding," of the Nature, but not much Formula. Are we, therefore, to call Natives Ignorant?

In addition, we note a prevalent attitude to look down people who do things, relative to "aristocrats" who do not work. Intellectuals are respected, because they do not labor. Farmers are raged individualists, but they know the Power of Bankers who do no physical labor.

14. Newtonian Mechanics can be traced back to Euclid Geometry via Descartes's Analysis. Relativity also came from Geometry. But, Geometry is one of 9 Muses in Greek Myth.

Muses were 9 daughters of Gaea and Uranus (or of various others, which indicates that Muses preceded the time of Patriarchy where Zeus came in). They were, Thalia (Muse General), Memory (Clio), Calliope (Poetry), Terpsichore (Dance), Melphomene (Tragedy), Erato (Love Poem), Euterpe (Music), Polyhymnia (Sacred Song and Geometry), Urania (Astronomy) [B.G. Walker The Woman's Encyclopedia Of Myth and Secrets. Harper and Row 1983. However, Walker does not mention Geometry among Muses.]

The Alexandrian Museum was a Shrine of Muses and it was a institution very similar to what we might consider the

"Ideal Liberal Art University". And we note that those essential subjects for education were represented by Goddess. It was likely that women taught those subjects. Besides, learning as such was a "Delight", if not "Erotic". It was "Sacred", but not in the secular sense of "Work". Learning was "Ceremony" of Humaneness.

And Geometry was among muses (according to Aristotle et al). Perhaps, it might have meant "Visual Art". Or, perhaps, it meant The Harmony (Structure) Of The Universe. And Geometry was the Grandmother of Science.

If we understand Geometry as such, then we can also appreciate Geometrical Patterns of Native "Art" as "Science". It deals with "Perceptions" of the World. It depicts Relationships of things and events, as the Spider Woman of Navajo Myth did. And notably, the "Mythological Geometry" also included Time Dimension, preceding Relativistic Cosmology.

[As to these senses of Cosmology, Silko also makes references in the novel Ceremony. For Artistic side, see Kandinsky's writing. For "Eros", see Wilhelm Reich Cosmic Superimposition. 1949. Wilhelm Reich The Mass Psychology Of Fascism. M. Bermann Enchantment Of The World. J. Spring A Primer Of Libertarian Education. Black Rose Books 1975. LC189 S73.]

At any rate, once we get to the level of "Understanding", it is almost impossible to discriminate Muses from "Science".

The reason we discriminate Native Science is that we do not want to "Understand" it. We do not wish to know the meaning. What we are afraid of is our own liberation. We do not like the burden of freedom. As to this, Existentialist writers wrote extensively. Therefore, I shall not repeat. But we ought pay some attention to what Nietzsche called "Slave Mentality". To be free is not painless.

Even Castaneda who was lured by Power Trip, begun to know the History of Colonial Oppression. Castaneda did not develop an Understanding of the history, but it appears that he was bothered by it. The reason Castaneda did not "understand" the history was perhaps he was not prepared to take the pain. One wonder, if Castaneda went deep into the Colonial History, what would have happened to the popularity of his books. Perhaps, he would never made "Best Sellers". Readers do not wish to understand either. Rather, Castaneda

stayed at the level of Power Trip. Today, such is the "Knowledge", which is a "Commodity" to be sold at Market.

Of course, some of us in academia, who have to write in the way acceptable to editors of journals, are not in the position to cast stones at Castaneda. We are in the profession of manufacturing sellable "knowledge". "Understanding" is perhaps too personal. Or, we are afraid, if our society as a whole "Understands" something, someone gets hurt. Because that is no less than a Revolution.

15. Relative to the Ancient Science, we see that our "Science" has gone through many changes, (or "perversions"). By the time of Aristotle, despite references to Muses, Science was already a "Macho", "Authoritarian" Institution.

In the Middle Ages, it became Book Knowledge.

In Renaissance, it appeared to turn back to "Art" and "Artisan" ("craftsmanship") for a short while. But the development of the "Absolute Power States" negated the move soon after. Newtonian Mechanics reflects the historical condition of the time. Mechanization of Thinking went with mechanization of Political System. Intellectuals were not a part of "Working Class". Hence, the Scholasticism of the Middle Ages was revived in New Science very soon after it was appeared to have destroyed it. Of course, the emerging "intellectuals", "scientists" were from lower class, and they brought "Work Ethics" with them. They were nominal "Petty Bourgeois", but substantially "Proletariat". These sociological conditions shaped what we call Science today. The Class Distinctions among people killed the Liberating Spirit of the "New Science" that Galileo et al started.

It is interesting to note that the "Fathers" of Modern Science were very much like "Spiritual Gurus". For example, Rene Descartes had a Dream in which Angels appeared and told him to work on the mission of New Science. Descartes, pretending to be an "Enlightened Rational Intellectual" never mentioned his Dream in Public. Newton was a very devout Religious man. He wrote on Religious matters more than he wrote on Mechanics. He also indulged in Alchemy and spent more time on it than on Mechanics. Of course, physics texts rarely mention such things about Newton.

If we say Medicine Men and Medicine Women are "Religious", and therefore they cannot be "Scientific", we

must also say that Newton and Descartes could not have been "Scientific". That we dare not disqualify Descartes and Newton from being "scientists" is an evidence of our Prejudice.

The difference between Common Sense and Science is our habit of Class Distinction. We use our Superstition to Discriminate some people and Justify our Prejudice. There is nothing "Rational" about our edification of "science" and in our Worship of Printed knowledge. It is a matter of Politics.

III. Towards Liberation Science, Liberation Epistemology and The Role of Native Science in the Liberation.

What is "knowledge" if it does not help people to be liberated? For what value we learn Science?

And, what is our strategy towards Liberation?

16. Science is far from "Value Neutral". Slaves are the ones who have no value sense of their own. If Scientists who work on the routines of a Production Line have no "Value Sensation", it is only because they are degraded to be Slaves. It is also known by a Sociological term "Alienation". In such a case, their Masters have the sense of value and exercise will Power over them. "Value Neutral" means that the slaves give up the Right of questioning the Values held by the Masters.

Most Scientists work for Money. Some work for personal Pride, or Prestige. Some work for Power. A few work for the good of humanity. There are minority of Scientists who do Science for Love and Fun. Some may be "compulsive", "megalomaniac", "neurotic" etc. But there are "Values" in any case. And the Value dictates the Stylist of Science.

Different Cultures have different set of Values, or Value Priority. Science in different Cultures would be different. And Stylisms would be different. The ways of communicating would be different. These things make recognition of "different silence" difficult. The only way to breakthrough and overcome such barriers is "Understanding". But, even Understanding of European Science is not trivial. There are "good reasons" why we do not Recognize Native Science. Namely, we do not understand ourselves. Studies of Native Science is, actually, a help for us to understand ourselves.

17. Even within European Physics, Mechanics and Field Theory are completely different. Mechanics chases around motions of objects. Field Theory is concerned with "Environment", so to speak. Only because their common Historical roots, they are recognized as two branches of the "Same" physics. But the level of "intelligence" is different between the two. If one is trained, one would immediately recognize the difference in Stylisms. That is more profound than what is referred as "Paradigm Shift".

Unfortunately, European intellectuals in general are not aware of the difference. They are still in the Old Physics of Newtonian Mechanics.

A prime example is the Behaviorists in Psychology. They are trying a simplified Newtonian Mechanics for studies of "Mind", but have no appreciation of Field Theory. Whereas, Native Americans exhibit Field Theoretical thinking patterns more often than Mechanical ones.

[see F. Capra Tao Of Physics. 1975 and The Turning Point. 1982. E. Lehrs. Spiritual Science. Electricity And Michael Faraday. R. Steiner Press 1975.

Freud was "Mechanical". Whereas Jung was Field Theoretical.]

18. In addition to the above two, Physics recently has come to "Non-Linear Physics", (In Math the same is called "Catastrophe Theory" or "Topological Dynamics", etc.) Or one might say that Physics finally has come to deal with the Complexity and Sensitivity that were neglected for a long time.

I shall not explain this new Physics here. But it is noted that Native Thinking Patterns are remarkably similar to "Non-Linear" Physics.

It appears that Natives are not "Primitive", but rather too "sophisticated" in their thinking to be effective in a large Social scale. When one wishes to get a heterogeneous society to cooperate in a Mass Mobilization, "Simple Slogans" are essential. The "Mass" was commanded by the Power. Things like "Understanding" was ignored. In the past 300 years or so, European Intelligence primarily depended on simple Mechanical thinking and pushed the Industrialization by Force.

It was a great success in one sense, but we all know that it created many problems. We came to the Dead End of the Simplified Power Strategy. Even if good for some, the days of "Forcing" is over. Guns that symbolize the Newtonian Way of doing things no longer bring solutions to the problems. "The Power of Revolution does not reside in the barrels of Guns", if we paraphrase Mao's famous slogan.

Unfortunately, problems such as Environmental Pollution (concerning the Stability, Elasticity of Environment) are essentially Non-Linear. Simple Linear control devices such

as "Money" do not work well. We need more sophisticated thinking to deal with complex Systems and complex Fields.

An important example of Non-Linear Field Dynamics is "Sensitivity" of Humans. But it is difficult, if one is to approach from European Science. We need a "strategy" in our learning of a "way out" of European Science. And "sensitivity" is one of important key for that. But to learn "sensitivity", we need the very same "Sensitivity". That is; we are in a "Vicious Cycle", which is a Prime example of Non-linear Dynamics.

The new strategy shall liberate Science. And in formulating a new strategy, we have to make "Science" a tool of liberation. How to break through this vicious Cycle is the challenge of the New Science.

[For Pedagogy Of Liberation Paulo Freire. Pedagogy Of The Oppressed 1985. See for Feminist point of view; Paula Gunn Allen. The Sacred Hoop Beacon 1986.1

And, for the strategy of Liberation, the studies of Native Science and Feminist Critique of Science are very important.

19. The Dehumanizing effect of Science has been well documented by Capra's Turning Point, etc. And we note that even in the beginning of the 20th century, Oswald Spengler's The Decline Of The West appeared. The problem is not new. It is just that, collectively speaking, we have been putting off the task of facing up to the problem.

Just as we have been ignoring and denying our oppression and repression of Native Americans --- if we say "We Did Not Know", then think about Why we did not know ---, we have been refusing to admit the problems of Science.

The most readily noticeable characteristic of the Scientific Mentality is its preoccupation with Power and Insensitivity. Feminists pointed out that we are Proud of the Power-Trips and Insensitivity. For the sake of appearing as Macho, we thought we have to be Insensitive. Perhaps, it was Darwinism that commanded us to "Compete in Power Struggles and Win". The God's Design is such that the Winner is the Fittest and that is the Supreme Virtue.

Of course, we are not so strong as to having extra capacity to care for the Environment and other Life Forms. We had to use all we have to fight. We could not afford to be

Sensitive. On one hand, we claim to be "God's side" by winning power struggle. On the other hand, we are Fear Driven to defend what we got. Deep down, we know we are worthless worms, and therefore it is justified to fight dirty, using deceits, betrayals, tricks, lies, treachery, etc. which are our "technology-science" of survival. We can not live by Grace nor Love. Christians know that and call themselves "Sinners".

And because we know ourselves to be ungraceful being, we think others to be equally ungraceful. What is more, we project our own "sins" on others and punish them. Since we are angry at ourselves, we are merciless against those presumed "sinners" and we perform atrocity as if it is a sanctified ritual to bolster our righteousness.

For most of us, Science is a precious little thing that tell us we are "Right". Science is a precious little Power that we have in fighting off all those barbaric hostility --- that we projected after our own image --- in the Nature and other Races. We cannot afford to criticize our Science.

20. Unfortunate consequence of our Fear is that our Insensitivity is rationalized by it. Unless we have some alternative vision to stand on, we cannot even start thinking of Sensitivity.

The importance of our studies on Native Science comes in here. We are provided an opportunity to see things differently. Like Carlos Castaneda, we are lured by mystery and perhaps in our habitual quest for more Power, but we learn, at least, something different.

Our attitude may be more like the "Romanticism" of the early colonialist who idealized the "Noble Savages". Or we may be "Patronizing" Native Americans, from our assumed "Intellectual Superiority"- We would try to Rationalize and Justify Native Science on the basis of European Science.

From the point of view of Natives, this is unsatisfactory. But Don Juan Just laugh at that. It is Tolerance/Kindness that is inherent in Native Science. The Sensitivity to "see" has to be cultivated carefully with the same Sensitivity. And Native Science is not like her European brother who has to push itself to dominate others. It is not tool of Power Dominance, but rather it is a Gift of Love. Natives do not believe in "Missionary Work" nor in "High Pressure Salesmanship". It aims at Understanding, not Control.

21. There is, however, a context in which the above mentioned "unsatisfactory" state might pain Native Americans. That is, Natives themselves see the situation as "desperate". Rocky, in Ceremony, was a full blood Indian, yet he saw no hope in Native Way. He was impressed by the Power Display of European Science, and he try to identify with the Oppressor. He was not aware that European Science has come to its Dead End. He was killed in Pacific for the Glorious Cause of War that marked the beginning of the end of the Colonialism.

Perhaps, there were many "Veterans of Vietnam War" among Natives. Perhaps, the War was a "Sacrifice" Natives would endure. Yet the pain is real. For their young generation is demoralized and deserting the Native Culture. They get into Alcohol and Drugs to ease their Pains. But the problems do not go away, just because one does not feel them. Ignoring, Rejecting, nor Denouncing does not make the problems disappear. One has to understand the problems and work with them, if one ls to solve them. There, Native Science can be powerful help. Unfortunately, the obscurity and low prestige of Native Science make it difficult for Native sons and daughters to learn. Honored recognition of Native Science will help them in their recovery, or discovery of their own worth. And for that task, a construction of a Network of supports, --- physical, mental, spiritual supports --- is perhaps the first step.

22. Actually, the difficulty is common with all people in the World. In a context of discussing Peace Education, JoAnn McAllister and Matthew Fox writes;

"The Institute In Culture And Creation Spirituality at Holy Names College has been providing a critique of the Old Paradigm --- Newtonian Physics and Fall/Redemption Christianity --- and has been building the foundations of the New. Our Educational program reclaims the long-neglected creation centered Spiritual Tradition that begins with a Theology of Blessing; incorporates the new understanding of the emerging Universe; Reveres Native Spiritualities and evokes and celebrates the artist as a Prophetic Voice"

[Breakthrough. Spring/Summer 1987. P53. Publication of Global Education Associates.]

The writing is from a Christian background. Nonetheless, one hears a Common Voice shared with Native writers. It is a Prophetic Voice at our crisis. Native Science is the New Epistemology that reads the Prophecy of Blessing.

[page not available]

IV. That Science is Performance in Learning, and that Learning is Communal.

23. We tend to think of Science to be what are printed on papers. They are "Dead Science" and belong to History. Science alive is a Force of Knowing.

Epistemology in the past had the mistake of identifying Science with the Dead one. It used to preoccupy itself with the task of Justify, or Reject, claimed Knowledge. It did not look into the Process of Creating Science seriously.

"Knowledge" is not "out there". Knowledge is created, not "discovered" in the sense it had been there under some cover. "Discover" only metaphorically refers to what goes on inside "Mind". We take our self-imposed blinders off. That is the "Discovery".

[Greek word translated as "Truth" in English, means "to take cover off". It meant "exposing" what had been Concealed By Humans. The notion of Truth, as such, is Dialectical. It is a Collective of human Minds that conceals, and it is the same Collective of human Minds that exposes what it had been concealing. The Greek notion of Truth coincides with A. Eddington's view of European Physics as a "series of mistakes upon mistakes. Without previous mistakes, there can be no Physics learn on. This is a parallel to Oedipus Complex metaphor for Social Progress. But, we shall correct such a metaphor, and create a better metaphor, in the new science.]

Science alive is in the action/process of knowing. That is, it is in Learning Processes. Science refers to the "Ways" of learning. It recommends strategies of how to deal with Unknowns and Problems. That has nothing to do with the "Answer". It is an "Approach", "Procedure", "Strategic Principle". It is the "Ways", not the "Results".

24. In addition to the foregoing, the term "Discovery" is a misleading metaphor, in another sense that the word suggests Individual Discoverer. Perhaps, one person might "Discover" Gold Nuggets etc. But that is not what happens in Science. Indeed Science is a Creation of New Way of Perception and/or Thinking. And there, "Communication" in a social scale is important.

In a larger view, it is Human Race as a whole that learns. Individual knowing is important enough, but Science ought not to be an Ego Trip. We do honor creative individuals. But Science is to be Science, it has to be communicated. It has to be given away as a Gift of Love to Humanity.

And Science such as Geometry and Physics is developed in Linguistics level, presupposing existence of a "Language Community". And the Creation has to be meaningful to the Community. Otherwise, making terms like "Force", "Energy", "Field", etc. is useless.

That is, at least, Metaphysical and Theoretical structures are built on the basis of existing Language, and add new vocabulary. It requires existence of a community who speaks and thinks in the language. It is not just a person to sense something, but it is the Learning Process to reach an "Understanding By the Community" that is Science.

When we talk of "Knowing" (Epistemology), we ought to have meant the social process. The Epistemology in the past failed completely in this. Only recently, Frankfurt School of Social Criticism has come to address to this dynamics. Habermas, Ricoeur, et al are the examples. We have been blinded by our own "Egoism" to see our ignorance --- or our "ignoring" ---.

25. In contrast to the Individualistic Epistemology, one thing impressive in Native Science is that it is a communal effort. In Haida Myth, Mouse Woman always comes out and helps. What appears to be a "Heroic" deed in a European interpretation is actually accomplished by communal help.

Tayo, in Silko's novel, reaches a resolution of his problem through communal help. Individual efforts were there. It should not be minimized. However, it is equally bad taste to ignore those who helped Tayo. And, in turn the Community as a whole learned. Tayo's problem was not Just "His" in the individualistic sense. In Silko's story, a new hope for the Community, if not the survival of Natives, is prophesied by Tayo's learning. There is clear presence of the Spirit, which represents the 4-dimensional existence of the Natives --- not only the historical Past, but also the prophesied Future ---.

The Native Science is Communal. Native Science spans a huge Time Dimension, not only its Historical Past, but also the Prophesied Future. In contrast, European Science

(Knowing) is like an isolated "Point here and now ---, aside being Egoistic.

Even in religious contexts, this European "Egoistic Knowing" comes through. Perhaps, the original meaning did not intend, but Christians today think of Christ bearing the burden of "Sin" on himself Alone. None of Native Spiritual narration carries such a sense of "Alone-ness".

In a sense, not having the sense of "Alone-ness" may be a weakness of Natives. Forced into a Civilization where "Everybody is for oneself", Natives cannot function well. Only the Natives well educated in European Individualistic Epistemology can match their wit with the "foreign culture".

To be sure, not all European descendants are competent in the game of Egoism. The majority fails. Thus, we do have social problems.

But, on the other hand, the problems, the pains, the suffering, are the well-spring of creativity, provided people are not crushed under completely. The Liberation Science-Epistemology cannot emerge from anywhere else.

The Liberation Science-Epistemology (Knowing) is the Learning Action of the Community as such.

The Native Communities that kept the Spirit of Communal Learning, under the heavy oppression is a great Teacher in this respect.

Our strategy is, then, to build Networks of Learning with Native Communities. Our institutions of Learning must sum up courage and set up the Networks. That would be the beginning of a New Science.

26. In a sense, we are about to "steal" the last and the most precious Treasure from Natives by learning their way of humane existence. We do this after we have taken land away from them. We took their dignity away. In some cases, we have taken even their hope of survival and annihilated tribes all together.

I do not know what I could say to that. I only hope that Natives do not mind us learning their "Science". A rumor is that their ancestor had prophesied this coming. And, perhaps, without paying proper respect, we may not be able to learn, if that is a sufficient tuition.

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