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Dulce Nombre, Coronado, Villa Nova, 300m, North of the Bus Station, Home #13, San Jose, Costa Rica

E-mail: secr-office@umin.ac.jp

Fax: +506-292-6136 (506 is a country code of Costa Rica)

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RISK AVERSION AS RISK MANAGEMENT IN MEDICINE

Max Kälin
ETH Zürich, Switzerland

Abstract

Everyday experience shows that efforts in preventive medicine are burdened by **denial**. In emergencies, where denial rapidly increases the risk for further calamity, patients usually understand this and accept intervention. In preventive medicine the patient usually does not understand this because of a lack of urgency and existential threat. In preventive medicine the patient may be any individual being or any group of beings up to the entire planet earth. Denial in individuals roots mostly in fear and in groups mostly in greed. The Kübler-Ross model of denial-anger-bargaining-depression-acceptance for the process of dying starts with denial. Cases like the Minamata mercury poisoning demonstrate that her model also applies to groups. It is postulated that **denial causes more disease and suffering than any other pathogenic factor** and that **ignorance about denial** must belong to the **root cause of all disease**. The therapy for denial is to understand one's nature, individually and collectively. For this insight to become therapeutic the realm of blame needs to be transcended because blame and rejection of blame form a prison of exhaustion. Transcending the realm of blame means transcending the realm where cause can be separated from effect, the realm of duality, and amounts to the quest for the metaphysical. Considering that life on our planet earth may be at risk and that the most profound knowledge cannot help if rejected or ignored nothing should be left undone to understand how denial works and by which methods it can be overcome.

Key Words: Denial, Etiology, Blame, Metaphysics

Much of my understanding of risk stems from years of primary care and emergency medicine. Emergency medicine is nothing but preventive medicine under pressure, i.e. you want to prevent disaster in progress, you want to avert risk. However, there is a significant difference in the settings. In emergency medicine patients usually are highly aware of the risk of further calamity and highly willing to accept intervention, hoping the physician knows how. In preventive medicine the opposite is the rule, a low awareness of risk goes with a low willingness to accept advice and to do something about it. To convince patients of emergency measures, if at all necessary, usually takes a jiffy. To convince patients to consider long-term consequences or to change harmful habits is often next to hopeless. For the physician the emergency is a test of skill under duress, the more experience the more respect for hidden snags. The situation can be intense and take a bad turn. It can be felt in the belly. There is hardly any of that in preventive medicine. There is a penetrating and prevailing sentiment of "no urgency, no existential risk, it may matter – but not to me". Most preventive medical efforts are burdened by **denial**.

Who is the patient? In the emergency it is you, me, everybody! In preventive medicine it is less clear.

Here Rudolf Virchow¹ (1821-1902), pioneer of cellular pathology and social medicine, should be remembered. He saw the cell not only as the key entity to understand disease, but also as the bottom level in the hierarchy of the architecture of the organism. Tissue, organ and organ system, as increasing levels of hierarchy, would then unify at the highest level in the functioning organism. In analogy to this insight he considered the nation state as an organism with the individual, corresponding to the cell, at the base and the politician at the top². Thus he assigned to the politician the role of the physician. History demonstrates that this is mainly wishful thinking, for politicians usually act out of motives far

¹ Ackerknecht, Erwin H. *Rudolf Virchow*. Ferdinand Enke Verlag: Stuttgart, 1957.

² Ackerknecht 36. " 'Die Medizin ist eine soziale Wissenschaft und die Politik ist weiter nichts als Medizin im Grossen' " (" 'Medicine is a social science and politics is nothing but medicine at a large scale' "). The formulation can be traced back to the physician Salomon Neumann (1819-1908) from Berlin, the view, however, that physiology implicitly comprises psychology and sociology, to René Descartes (1596-1650).

from healing intentions³. Nevertheless Virchow's view helps. Taking a global standpoint the patient not only encompasses all human beings, but all beings and all relationships these beings are engaged in. This includes any organizational division and level and, in the end, the entire planet earth. It is a matter of choice given a particular problem how the patient is defined. Scanning the universe of pathogenetic factors, it is postulated that **none causes more disease and suffering than denial**. If we consider our physical existence as the *causa sine qua non* for disease, then **ignorance about denial must belong to the root cause of all disease**.

In the effort against disease and suffering it is crucial to engage leaders with a sense of crisis and challenge similar to the one the emergency physician experiences. In the emergency situation feedback comes fast, harmful consequences will have to be faced right away. Exactly such tie-ins are needed for leaders, especially political and economic leaders. Mechanisms much more effective than election or economic success must be found and installed that gauge effectiveness of action and encourage honesty about motives. Much needs to be done because many of us find it difficult or impossible to feel and practice responsibility for future generations, for children of someone else, for peoples far away, for people we do not like, for cultures we disrespect.

A threat perceived as existential exerts a powerful influence on the way we deal with human affairs. In her classic on *Death and Dying*⁴ Elisabeth Kübler-Ross described a pattern common to patients facing terminal illness. A pattern that begins with **denial**, usually followed by **anger, bargaining, depression** and that sometimes, mercifully, leads to **acceptance**. The wise of all times cautioned against ignoring the fact of death. However, we tend to behave as if it only takes place with others or as Woody Allen put it "I just don't want to be there when it happens". The diagnosis of a terminal illness is a warning shot, but in order to cope we seem to take refuge in denial, not only initially, but again and again. The same pattern also occurs on a large scale.

The epidemic with methyl mercury in the region of Minamata is well documented⁵. In 1956 four patients

fell victim to a disease hitherto unidentified. In 1957 Dr. Hasuo Ito, head of the Minamata Public Health Center, demonstrated toxicity of fish and shellfish in Minamata Bay to cats⁶. In 1959 Dr. Hajime Hosokawa, director of Chisso Minamata Factory Hospital, was the first to diagnose the disease as due to mercury poisoning and to trace the source to Chisso Company. However, Dr. Hosokawa's findings were concealed and he was restricted from conducting further research by Chisso. By changing in 1958 to dump mercury containing effluents to Minamata River instead of Minamata Bay, "hoping to diminish accusations toward the company", Chisso anticipated or implicitly acknowledged Dr. Hosokawa's findings of 1959⁷ who revealed on his deathbed the extent to which the results of his animal experiments on mercury poisoning had been kept secret⁸. Although a detailed knowledge of motives and decisions may never be available, it is quite certain that Chisso sensed an existential threat early on and thus responded with **denial**. Maybe that the management was not aware of this, maybe that it was and saw in denial the safest initial strategy. **Anger** in the form of riots followed in 1959 (4000 Fushimi sea fishermen congregated to demand inspection by the National Diet and later broke into the grounds of Chisso). Although by the end of 1959 **bargaining** had led to compensation to some of the victims, there was much room for **depression**. Chisso started to lose competitiveness and by 1968, the year the government fully acknowledged the etiology of the

³ Ackerknecht 147. Otto von Bismarck (1815-1898), Virchow's political opponent, expressed it clearly: " 'wer die Macht in Händen hat, geht dann in seinem Sinne vor' " (" 'whoever has the power, takes action according to his intentions' ").

⁴ Kübler-Ross, Elisabeth. *On Death and Dying*. New York: Collier Books, MacMillan Publishing Company, 1969.

⁵ Littlefield, Angie. *Minamata Bay Pollution in Japan and Health Impacts*. Trade Environment Database (TED) Case Studies, vol. 5, case 246. Jan. 1996. <http://www.american.edu/projects/mandala/TED/mimamata.htm> (18. Dec. 2002)

⁶ Togashi, Sado. *The Relationship between Inquiry into the Cause of Minamata Disease and Social Action preventing the Epidemic (Abstract)*. Kumamoto University, Department of Law. <http://www.hf.rim.or.jp/~dai/minamata/MINABG1.html> (6. Jan. 2003)

⁷ Littlefield. "Finally, in July 1959, researchers from Kumamoto University concluded that organic mercury was the cause of the "Minamata Disease". A number of committees, of which Chisso Corporation employees were members, formed to research the problem. The committees denied this information and refuted the direct link of mercury to the strange disease. Finally, Dr. Hosokawa performed concealed cat experiments in front of the Chisso Corporation management, and illustrated the affects of mercury poisoning by feeding the cats acetaldehyde. Dr. Hosokawa was the first person who made a valiant effort in proving to Chisso Corporation that they were the ones accountable for the mercury poisoning. After the meeting with Chisso officials, Dr. Hosokawa was restricted from conducting any further research or experiments, and his findings were concealed by the corporation."

⁸ Jun Ui (ed.). *Industrial pollution in Japan*. United Nations University. 1992. <http://www.unu.edu/unupress/unupbooks/uu35ie/uu35ie00.htm> (22. Dec. 2002)

disease and the discharge of methyl mercury was discontinued, Minamata City began to fear for its economic future. In this context the victims had to accept in the 1970s unfavorable standards as to what qualifies as a patient (e.g. in 1974 a suit was brought against Kumamoto Prefecture for "illegal, willful delay of the certification procedures" (to certify victims)). The final settlement and political resolution, we may see it as **acceptance**, took place in 1995. The total, registered cost consisting of compensation to patients, clean-up of Minamata Bay and reconstruction of Chisso exceeded 12 billion Yen (the total, real cost estimated to be 100 times higher) by 1990. Most of these costs could have been avoided by accepting the findings of Dr. Hosokawa in 1959. However, all of these costs could have been avoided because by 1959 the toxicity of mercury had already been known for a long time⁹. Exactly this denial of knowledge is the seed of the tragedy. The temptation to blame Chisso must be met with caution: History¹⁰ tells that the villagers of Minamata initially invited Chisso to build in the area and subsequently, at least to some degree, accepted the money-for-damage concept. Finally, this reference to cost should in no way distract from the suffering that lies beyond what money can do; suffering can only be felt and experienced but not measured in any material way. Thus, whoever first warmed to the idea that any damage due to mercury could be paid off not only miscalculated but showed no heart for all the humans and animals that could be expected to be poisoned. The pattern of denial, anger, bargaining, depression and acceptance does not follow in sequence, it is a

complex back and forth, with many nuances and subtleties. But it certainly is a basic pattern seen in individuals and organizations, the largest being mankind, alike. We can observe denial of the consequences of holding harmful ideas like dogmatic or fundamentalistic views or "us-versus-them" attitudes, of wasting energy, water and goods, of ignoring mind and heart.

Consider denial in the interaction between you and me: I tell the truth or I lie and you accept or you reject. In the first situation I tell the truth and you accept what I said. If you did so after considering the evidence and weighing the arguments then we may call this the sane and sound way to understanding, not hindered by denial. In the second situation I tell the truth and you reject what I said. You may do so after careful consideration and, by stating your position, we may enter a dialog. Or you may do so out of hidden motives and we may quarrel and quarrel. It can be dangerous to the health as shown in the case of prophets who tend to lose their life. Let's call this type I denial. A classic example is Rachel Carson¹¹ (1907-1964) with her book *Silent Spring* of 1962, in which she made the case against the pesticide DDT. Thus she took on the chemical industry, which went on a rampage of denial. Supported by sound evidence and the authority of a dying person she "could not be denied away" and she succeeded in changing the view about pesticides fundamentally. In the third situation I lie and you accept. Although I may be fully aware of my lying I have to make no effort in convincing you and, thus, denial may be subtle and hidden: I deny to myself the realization of the consequences of my lies. Let's call this type II denial; life shows this to be very common and very harmful. In the fourth situation I lie and you reject. I fail to trick you and further harm may thus be averted. An illustration to this, let's call it type III denial, occurred during the Cuban missile crisis. In 1962, Adlai Stevenson, U.S. chief delegate to the United Nations, showed spy-plane photos of Soviet nuclear missiles being delivered to Cuba, and thus swept away the denials by the Soviets. In retrospect these photos were right-in-time medicine; they worked because existential threat and urgency were beyond refutation. The same holds true for Rachel Carson's warning: The time was right. This cannot be said of prophets, they are prophets exactly because their warnings are ahead of the zeitgeist.

On a world scale we often have the case where "some know, tell the truth, and are not listened to". Take the cigarette. Why is there a single producer left? Why are more Chinese smoking today than ever before? Why is there no will to do something about it? Why have

⁹ The 19-th century expression "mad as a hatter" refers to the disease resulting from prolonged exposure to mercury in the making of felt hats. Paracelsus (1493?-1541) was probably the first physician to introduce mercury as a medicine and to recognize its toxicity,

¹⁰ Littlefield. "In 1907 the villagers of Minamata convinced the founder of Chisso Corporation to build a factory in their town, hoping to benefit from the wealth of industrialization. The owner, Jun Noguchi agreed to the development, but used the people from Minamata as simple factory workers[.] The more elite positions, such as engineers and managers were "imported" as he termed it, from the finest universities, like Tokyo University.

By 1925, the Chisso Corporation was dumping waste into Minamata Bay and destroying the fishing areas. The theory behind Noguchi's industry was to pay off the Minamata fisherman in exchange for damaging their fishing environment. According to Eugene Smith's interview of the people who lived in Minamata, the company believed that it was much cheaper to pay off the few people who were opposed to the dumping, rather than implement an environmentally safe technique of waste removal. Therefore, since the villagers accepted this practice through compensation of money, and the government was behind the industry, the entire process appeared ethical."

¹¹ Carson, Rachel. *Silent Spring*. London: Hamish Hamilton. 1962.

the actions of many with best intentions and solid understanding not been able to budge this process? Blaming and scapegoating will not heal cancer or free arteries.

What is really happening here? We have to look beyond the realm where cause can be separated from effect into the metaphysical. Physicians and patients are together in the dance of life and it is impossible to tell which is which. Today I may be the patient, tomorrow the physician, and vice versa again. We must search for the deeper patterns and determine their relevance. We are all actors and directors. Successful navigation of these waters

demands utmost sincerity. In the play of life and death existence entirely depends on action. Suffering cannot lessen without cultivation of what leads to deeper and deeper awareness and insight. The therapy for the sickness of denial is the path to within, a path to be treaded individually. Seemingly insignificant, these our paths add up and weave into the fabric of all triumphs and calamities of mankind.

TEL : +4179 416 8088 FAX: +411 382 1676
e-mail: maxkalin@chan.ch