

The Anthropology of ICT:  
When Hackers Deal with the Local Culture

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Abstract

This paper is part of the on-going PhD dissertation I'm currently working.

The term 'Hacker' is technically used for a person who writes code and exploits it in issues related to a security system. This paper, instead, will use the term 'hackers' anthropologically, not to discuss the above given matters but to refer to the mindset description of AirPutih, the Indonesian group of young people who arrived in Aceh, Indonesia, only four days after the tsunami hit this devastated region in 2004, and re-established the ICT connection with almost no money at hand. This paper discusses the cultural negotiation behind the success of this re-establishment.

Taking a closer look on hackers' mindset, this paper follows the description suggested by Torvald, Erikson (2008), Winn (2000), Perrin (2009), Shinder (2010), saying that – apart from defining hackers as programmers and security breakers – hackers constantly seek further knowledge, have a strong interest on how things work, like to create and modify things for the enjoyment and the thrill of doing so. They are happy to find and fix vulnerabilities in the network and systems for no compensation at all, freely share what they have discovered, and never intentionally damage data. They also tend to be friends with other hackers and learn from each other.

The above mindset of the hackers embraces the Javanese worldviews rooted in everyday life of members of AirPutih that are mostly Javanese origin. The paper further discusses the matter opposing the Acehnese culture which is quite contrast to the Javanese. The negotiation of culture is however strongly framed by the situation and the condition of a post-disaster in Aceh, Indonesia. The paper also discusses the intriguing result of the successful work of AirPutih in re-establishing the ICT infrastructure.

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In Indonesia, Onno Purbo teaches common people to create their own dish from a local kitchen wok (Wajanbolic) to cut the cost of having an internet connection down to the affordable price common people can possibly have. Total installation costs of the Wajanbolic are approximately US\$ 30.<sup>i</sup>



Wajanbolic has a range of more than 2-4 km and is made by and for a great crowd. It is collective work. The smallest administrative organizational structures in Indonesian society are the Rukun Tetangga (RT), which consists of about 30 families in one neighbourhood, and the Rukun Warga (RW), which consists of about 100 families or five RTs. RTs and RWs share the work and the expenses of installing the Wajanbolic, and the resulting network is called an RT/RW-net.



Across the continent in the western world, there is a 'home-brew' antenna. Gregory Rahn (2003) developed the Pringles Can Antenna based on instructions he read in Rob Flickenger's book (2001). The pipe is made from a can of Pringles chips. Installation cost around US\$ 5-10. Another cheap way is to re-use old junk: dishes and other equipment needed,<sup>1</sup> that

you can get from flea market or even for free from a kindly neighbour who knows you're eccentric.



The above is an example of how hackers around the world take one idea differently, share their knowledge differently. One way, Geert Hofstede (1997) explained this difference by proposing the definition of Individualism and Collectivism. He suggested that Individualism pertains to societies in which the ties between individuals are loose: every one is expected to look after himself or herself and his or her immediate family. Collectivism as its opposite pertains to a society in which people from birth onwards are integrated into strong cohesive groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty.

Wiryana (2009) concludes that within the scope of the above definitions, Indonesian society is Collectivist rather than Individualist. This is manifested in a close long-term commitment to the member 'group', which in the case of Indonesian society is a family, extended family, or extended relationships. Loyalty in a collectivist culture is paramount and over-rides most other societal rules and regulations. The collectivist society fosters strong relationships where everyone takes responsibility for fellow members of their group.

The individualist's commitment can be seen behind the making of Pringles Can Antenna. Rahn (and other individualists) worked alone to finish the project and later distributed his work over the Internet. Collectivism and individualism have both proven that a human's natural behavior is to share. The collectivists share the work from the beginning; the individualists share the work later when they know the work is correct.

Sharing occurs as a result of an acceptance of solidarity. Sharing also has the potential to create a sense of solidarity, thereby becoming a self-reinforcing process. Sharing, or 'having in common',

or 'using something jointly with others', has the impetus of altruism although this is not to say that there will be no mutual benefit involved (Makwana, 2007). Sharing has therefore negative and positive duties that comply one another. The former involve non-interference with others' pursuit of their self-chosen goals, not harming the vital interests, not taking advantage of the weaknesses and vulnerabilities, and so on. The latter involve the duty to offer such help as others need to lead fulfilling lives and which one can provide within the limits of one's abilities, resources and knowledge. Although negative and positive duties overlap and cannot be easily separated or even distinguished, they arise differently (Parekh, 2003).

In a similar vein, Nik Boyd (1999) wrote that software development invariably begins with some human need or desire to explore or solve a problem, to automate a business process, to entertain, to educate, to communicate, to transact and track commerce, to explore and share information and knowledge, etc. This desire is strong in the mind of a hacker. As defined by Linus Torvald, a Finnish software engineer who initiated the development of Linux kernel, "hackers are a group of people who program enthusiastically and who believe that information-sharing is a powerful positive good, and that it is an ethical duty of hackers to share their expertise by writing free software and facilitating access to information and to computing resources wherever possible" (Himanen, 2001). Hence, from a hacker's point of view, it is actually not so puzzling when F/OSS research participants of Lakhani and Wolf (2005) show what appears to be irrational and altruistic behavior: giving code away, revealing proprietary information, and helping strangers to solve their technical problems. It is not so difficult also to answer the question posed by Lerner & Tirole (2002), "Why should thousands of top-notch programmers contribute freely to the provision of a public good?"<sup>1</sup>

Many theories say that the main drivers of the effort for F/OSS developers for the creation of free software products are external motivational factors, such as better jobs, career advancement, etc. Yet for Lakhani and Wolf, it is enjoyment-based intrinsic motivation that is the strongest and most pervasive driver for F/OSS developers, namely how creative a person feels when working on the project. The less-strong-but-also-stand-out drivers are user need, intellectual stimulation derived from writing code, and improving programming skills.

However, as the examples mentioned on section 1.1, hackers in different location around the world employ the sharing concept differently. In the case of my fieldwork in Aceh where Indonesian hackers ICT volunteers "AirPutih" developed internet access, using F/OSS, in the post-tsunami environment, the concept of human need and desire to share is also taken differently. It is another word to say that the Hacker Ethics have cultural dependency.

In the digital society, contrary to its pejorative use in most popular media, the Free/Open Source Software (F/OSS) community consider the term 'Hacker' as a badge of honor. The hacker identity includes solving programming problems, having fun, and sharing code at the same time. Hackers are not dangerous security breakers<sup>2</sup> as commonly portrayed in the mass media and in mainstream public usage. In the world of Hackers, the evil-minded ones are called 'Crackers.'

There are scholars who argue that the difference between hackers and crackers is that where hackers use their skills and knowledge to learn more about how systems and networks work and share this knowledge with others for free, crackers will use the same skills to write harmful software (such as viruses, Trojans, etc) and illegally infiltrate secure systems with the intention of doing harm to the system. True hackers do not participate in these activities and generally frown upon them.

This study will use the general mindset of hackers, apart from its technical part. That is a group of people who enjoy computing works, interested to know more and deeper, and love to

<sup>1</sup> Lerner, J. & Tirole, J. 2002. 'Some simple economics on open source', *Journal of Industrial Economics* 50(2), 197-234.

<sup>2</sup> High-level institutions hire hackers to try to break into their security system in order to test how impregnable it is. Hackers will then come back with full report on how they manage to surpass and how the leak can be sealed.

share their knowledge to others for free. This mindset becomes fundamental in establishing the information infrastructure in post-tsunami area.

### **Javanese World View**

It should first be understood that –like in any other societies– Javanese people are differed from one another. Each one has their own strong personality. There is no ‘common type of Javanese.’ There are Javanese who are soft but there are also some who are rude, some are shy but others are straight-forward, some are afraid to work alone but others just do not care about group’s judgments. In short, homogeny system of ‘Javanese people’ does not exist. To understand Javanese attitude, besides their personality and their closest circle (family), we should also include various social-reference into the study. The later helps to understand the pattern of their attitude.

In this study, I do not intend to formulate a deductive filter of ideas and moral attitudes in Java community. I would not say anything either about the existence of Javanese attitude. Based on my own intuitive picture from the data I found in various sources with different depth and different target market, I construct an understanding of being Javanese. So the so-called ‘Javanese’ here is a theoretical construction of mine and therefore is considered my own subjective perspective.

Theoretical construction is a scheme/structure that is not concluded inductively from any particular data or the result of a deduction, but rather built on the basis of intuitive certainty in order to achieve logical clarity, with the expectation that the construction would help to understand things better.

Franz Magnis-Suseno (1985) believes that typical of Javanese culture lies in the extraordinary ability for the Javanese to let themselves be overwhelmed by the outside wave, and within this flood the Javanese maintains their authenticity. Javanese culture did not grow in isolation but in its typical way of digesting outside culture. Hinduism and Buddhism were embraced, but they were eventually 'Javanized.' Nevertheless, is there any red line on the norms and values that guide the Javanese? What underlies the Javanese views on liability and responsibility, why the harmonious attitude is considered positive while stubbornness is negative?

An early form of Javanese religious belief was Queen of Justice or *Ratu Adil*. *Ratu Adil* was an idea that formed as a natural reaction toward suffering and represents the hope for a leader that would bring peace and harmony to the Javanese. It emerged as a natural reaction toward the Javanese way of life, etiquette, and emphasis on harmony. In other words, it was the foundations of Javanese custom or *Adat*.

For Javanese, Islam is complementary to *Adat*. The synthesis between *Adat* and Islam is not like the combination of ‘water and milk’ but like the ‘union of water and oil in milk’. They believe that the theoretically possible conflict between Islam and *Adat* does not exist. “Many have even questioned the legitimacy of the problem itself. Nature should be taken as the teacher, while in Al Quran there is a passage in which God indicates that He reveals some of His secrets through nature. Islam is the perfection of *Adat*, not just in a supernatural aspect but in the formulation of *Adat* itself. Many Javanese believe that “*Adat* is based upon religion and religion is based upon *Adat*.” Javanese have taken Islamic practice and made it their own in many respects, resulting in the harmonious unification of various belief systems.

Most of the Java community’s religion is considered “Kejawen.” They do not apply Islamic religious duties. They do not pray five times. They do not go to the mosque, nor fast in Ramadhan. They do not arrange their lives according to the rules of Al Qur'an. The basis of their views is the notion that the natural order and the community have been determined in all respects. Each individual plays only a minor role in the overall structure. Fundamentals of life and its status have been determined; their fate is determined long before, and as consequences, they must

<sup>3</sup> Magnis-Suseno (1985), Geertz (1961), Geertz (1969, 1981), Koentjaraningrat (1961, 1969, 1975), Mulder (1985), De Jong (1976), <http://countrystudies.us/indonesia/45.htm>

patiently endure the difficulties of life. As Koentjaraningrat says, “For centuries, the Javanese have emphasized the outward harmonious and peaceful relationship between men.”

Javanese villagers practice *Adat* within many aspects of their daily lives. *Adat* influences the Javanese’s social stratification, language, way of dress, family structure, gender roles, and marriage arrangements.

Since *Adat* greatly emphasizes proper etiquette, many of these rules center on the proper use of language. In fact, the Javanese use nine different types, or levels, of speech. Each level is based upon one’s status, and the status of the person to whom one is speaking. The speech levels comprise words that have the same meaning but are stylistically different.

The gender roles and status of women may be related to *Adat*. The status of women in Javanese society is much more favorable than in other Asian countries and much of the world as well. Javanese women contribute to the household economy by earning income from wages, trading, and agricultural activities. Many Javanese women are economically independent. They have no difficulty in supporting themselves and their children, should they wish to. Women are able to own and control their own land. Strong-willed men may have a relationship of equal partnership with their wives, but families actually dominated by the man are exceedingly rare.

The position of women within society was viewed as no different from that of men. This is linked to the agricultural system. Since men and women were both involved equally in the farming work, the status of women was elevated. Because *Adat* focuses upon the union of opposites, it seems as if women are considered an opposite to men, and men an opposite to women, therefore making each side equal, balanced, and living in harmony with one another, that in their word is called *Rukun*.

In their traditional play such as the shadow puppet or *Wayang*, there is one character that mirrors Javanese as a whole. It is called Semar who is endowed with great powers and is very ambiguous when speaking since he generally speaks through allusion and indistinct words. Semar appears in nearly every performance of the *Wayang*, usually as a servant of the main five characters “the Pandawas,” and is a central figure to the Javanese. The Javanese hold Semar in high regard due to his perfection of *Adat* behavior. Semar is portrayed as a genderless, potbellied, unattractive creature that speaks modestly and humbly at all times. Interestingly, Semar possesses the greatest powers of all. The balance between humility and extreme power, and the unification and harmony of opposites is fundamental according to Javanese *Adat*. Not only is Semar a symbol for ideal *Adat* behavior, he represents the logical Javanese approach to the universe as well.

### 7.3.1 Principle of conflict avoidance

There are two important principles in Javanese society. First one is the principle of conflict avoidance (*rukun*) and principle of respect (*sungkan*). The principle of conflict avoidance is tied strongly with the social and cosmological harmony. Javanese believe they will obtain well-being (*slamet*) through a harmonious life. Man finds his well-being in social harmony, which implicitly, secures harmony with the power of the cosmos. Efforts to achieve harmony become a reason to help the people in difficulty, even if they are not liked.

*Rukun* is considered both as a state of being and a mode of action, a state in which all parties are at least overtly at social peace with one another. It is a process of sharing through collective action. Harmony requires individuals to willingly surrender and release personal interests for the sake of the collective agreement. Man should repress his conflicting emotions that usually are attached to the issues at hand, so open conflicts can be avoided. For this purpose, the Java community develops norms of behavior that is expected to prevent the occurrence of emotions that can lead to conflict. By this, the emotion is expected not to be broken out openly. One virtue that is highly appreciated by the Javanese is an ability to describe unpleasant things indirectly and Javanese language itself is very suitable for it. A respected conversation among civilized people should be executed in high language (*kromo inggil*) but the vocabulary in Javanese high language does not provide any words to express rudeness, to show emotions, to swear, or to give direct orders.

### 7.3.2 Principle of respect

Regarding the principle of respect, Javanese believe that man has to know his place in society so that they can act appropriately. The Javanese do not make moral judgments according to abstract moral norms but on the basis of whether a given individual has reacted correctly according to the place he occupies in society. Whether a given action is considered right or wrong depends not on the principles but the results of the action.

For Javanese, however, the principle of respect is evidently tied to the category of knowledge (*rasa*). Everything depends on the supposition that one knows one's place in the cosmos and in society. Those who do not know their place in society and cosmos are described as missing knowledge (*durung ngerti*). In the Javanese point of view, knowledge is not an intentional act but rather an ontological change within man himself. Therefore, it is common to see there are various 'religions' in one family. They concern more on the harmony of life, the bigger thing.

The central religious rite is *selamatan*, a decent ceremonial fest. All the neighbors should be invited and the harmony between the neighbors with the universe restored. In *selamatan* revealed the values most deeply felt by the Javanese, which is togetherness, neighborhood, and harmony. *Selamatan* also gives a strong common feeling that all the villagers are equal one another, although there are some whose rank are considered higher in their society such as the elderly. Recognition for these differences and the equalities has its own value for the Javanese. Acknowledgement of the social status differences is at the core of their 'religious' understanding about the world order and can be felt in all areas of their lives.

### 7.3.3 Javanese vs Western Views<sup>4</sup>

There are differences between Javanese and Western views. For the Javanese, the final norm of morally right behavior is the harmony principles. They place these principles of harmony above all other moral requirements. Javanese views are not based on the interest of any individual because for them it will disturb harmony. It will hinder their obtaining of the well-being.

In western views, the following utilitarian principle is plausible: it is morally not right to enforce the rights of individuals without taking into account the leader of the group may, in an extreme situation, disregard individual rights accordingly. This principle, however, limits the condition that socially damaging behavior is permitted if it is necessary to fulfill the demands of justice. Logically, this means that the Javanese prohibition against socially damaging behavior is also recognized, in principle, in western views.

There is not a difference in principle between a basic premise of Javanese and western views. In regard to morality principle, what is important for western views is also important for Javanese views as well. The difference is founded only on totally different views of the world, and not on basic normative principles. Therefore Javanese views must not be seen as a cultural relativism.

The great majority of Javanese could be said to be very sympathetic to mystical dimensions of human existence. The typical Javanese worldview is based on the essential unity of all existence, in which life itself is a kind of 'religious' experience existing in harmony with a universal order. This worldview emphasizes inner tranquility, harmony and stability as well as acceptance, the subordination of the individual to society and the subordination of society to the universe. Interpersonal relations are carefully regulated by customs and etiquette to preserve this ordered state.

These, of course, are the high ideals of Javanese culture that may not always be realized in actual life, as contemporary events in Java frequently demonstrate. In every culture, there is often a distance between ideal behavior and reality. Nevertheless, the concept of harmony in the Javanese community is a core concept, notwithstanding outbursts of uncontrolled emotion that may occasionally be displayed.

<sup>4</sup> Mostly cited from [Ekaputra Tupamahu](#) (2007).

Javanese society and culture is by no means singular or homogenous; it is a complex amalgam of differing tendencies and apparently opposing worldviews. This must be kept in mind when attempting to generalize about Javanese culture; it is not unitary, but rather comprises a composite of influences - modern and traditional, religious and secular/nationalist. Javanese society has long been analyzed in terms of three major social polarities or worldviews; the abangan (the commoners), the priyayi (the nobility) and the santri (the Islamists, more appropriately referred to as muslimin). These somewhat arbitrary categories should not be interpreted to mean classes or castes, but rather as outlooks; ways of looking at and making sense of the world.

The Western tendency to want to "cut through all the bullshit and get to the point" usually ends up doing more harm than good when the business people are Javanese. Relationships must be cultivated in order for trust to be established, and this cannot be rushed. And, of course, different relationships move at different paces, depending on the individuals involved. Some relationships move quickly, others can be excruciatingly slow. Some relationships may even well be slow to develop because one party may not be all that interested. It is important that the relationship is not forced, as frequently seems to happen with Western businesspeople on tight schedules and planes to catch. In addition, Westerners often overestimate the depth of their relationships with Indonesian business associates and, perhaps, become overly familiar too quickly because they misread the naturally friendly and polite manner of the average Javanese.

## **1. INFOCOM AND ITS MILIEU IN ACEH**

As mentioned in part 2.1, this discussion uses on Serres' and Foucault's notion of milieu as a start. For Serres, milieu is a context, a frame, a set of framing circumstances, what circles the stance, what stands around where one stands (Connor: 2002). According to Foucault, milieu is needed to account for action (Foucault: 2007). In the milieu, circulation links are produced between causes and effects, and these effects bear upon all who live in it. Foucault's idea of milieu bridges the gap between nature and culture.

While Foucault transports this notion into physics and biology, and Serres transposes his idea into human senses, this study looks into its anthropological point of view of global issues. However, to make clear the concepts of Foucault and Serres, the investigation will first yield into the matters around transmission of messages.

### **10.1 Transmission of Messages**

For Serres (1982), the transmission of message from a sender to a receiver goes via a channel. Along the way, there are distinct properties that affect the message in precise ways. From the point of view of the sender who wants to produce a specific effect, this affective capacity is interference, or noise, that is always on the perimeter of any circuit of sender and receiver. Serres writes,

*"... We are surrounded by noise. We are in the noises of the world, and we cannot close our door to their reception. In the beginning is noise. The real seems to me to be stochastically regular" (1982:126).*

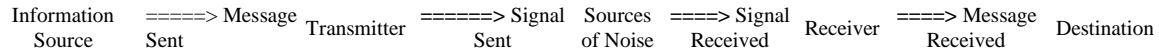
To recall, Serres' theory of noise changes in important ways. At first, he believes that noise is interference to communication but later on he sees noise as a positive force in communication. Serres therefore develops a concept of "parasite" to look into the relation between noise and communication. In French, parasite has three meanings: an organism that lives off a host, a social loafer who takes a meal and gives nothing in turn, or static/white noise in a communication circuit. These different senses of the term have a common principle: interference. It requires us either to expel it, or to readjust our internal workings so that we can accommodate the needs of the parasite. Noise, in other words, is to communication what a virus is to an organism. It is not an obstacle but a productive force around the exclusion of which the system is organized. To

clarify things, one must note the fact that what is called noise or static in information theory in English, is translated as “Parasite” in French. The parasite violates the system of exchange by taking without return and therefore introduces an element of irreversibility.

Luis Villareal,<sup>5</sup> a leading virologist suggests that viruses are required by cells in order for the cells to evolve. This affirms Serres’ basis premises of the productivity of the parasite and the principle that relations precede being. In adjunction, Claude Shannon<sup>6</sup> suggests that noise is recognized as a necessary consequence of transmission. Whether or not a certain effect is considered noise depends on one’s position in the listening chain. Noise is interference only from the sender’s point of view. From the receiver point of view, it may be considered a part of the information packet that is transmitted along the channel. Noise is not simply an extra third thing to be discounted. It has entered into the message and become part of it.

The works of AirPutih in Aceh offers interesting examples of this productivity of noise. Typically, AirPutih wanted to send their message to the locals that they cared about the locals’ endurance and that they determined to contribute to the furtherance of the region. The message was sent by working hard on re-developing the information infrastructure. The locals received the message with eyes wide opened. They recognized what AirPutih did. They were grateful but there were also times that they did not like what they saw.

In order to separate noise from information-carrying signals so as to evaluate the efficiency of various communication channels and codes, the situation above is broken down into elements. To do that, and to catch the reason why the concept works more on the traditional means of communication than the internet, this study first employs Shannon-Weaver Model (1949), a transmission (or information) model of communication. It emphasizes on the transmission and reception of information, and was initially very technology-oriented. This model looks at communication as a one-way process and that the message is seen as relatively unproblematic.



According to Shannon and Weaver's model (as seen above), a message begins at an information source, which is relayed through a transmitter, and then sent via a signal towards the receiver. But before it reaches the receiver, the message must go through noise (sources of interference). Finally, the receiver must convey the message to its destination.

Suppose you have an idea in your head (information source) that you want to tell someone about. You must first move the idea from your brain to your mouth (transmitter). Since you cannot actually share your gray matter, you must select words for your transmitter to use. Once you speak, your voice (signal) is carried through the air toward the listener's ear (receiver). Along the way, your signal is joined by a myriad of other sounds and distractions (noises). The receiver then takes everything it receives and tries to maximum the message and minimize the noise. Finally, the receiver conveys its message to the other person's mind (destination).

Shannon and Weaver's model clearly demonstrates why even the simplest communications can be misunderstood. Transmitting a signal across additional media only adds to the complexity of the communication and increases the chance for distortion. It is suddenly easier to understand why other people just can't grasp what we already know.

Roszak<sup>7</sup> points out that Shannon’s model has no mechanism for distinguishing important ideas from pure non-sense. Its ‘information’ denotes whatever can be coded for transmission through a channel that connects a source with a receiver, regardless of semantic content. For Weaver, two

<sup>5</sup> Louis P. Villarreal. *Are viruses alive?* Scientific American. December 2004. p.77-81

<sup>6</sup> Claude Shannon and Warren Weaver, *The Mathematical Theory of Communication*. Urbana: University of Illinois Press. 1949

<sup>7</sup> 1986. Theodore Roszak. *The Cult of Information*



messages, one is loaded with meaning and the other is just pure nonsense, can be equivalent as regards to information.

Nevertheless, derived from the simple communication as mentioned above, this study uses Shannon-Weaver Model to break down a more complex communication, separating the elements as it might clear the elaboration afterwards. And following the proposed idea that all communication must include six elements, the general communication between AirPutih and the local inhabitant becomes like this:

1. The source

By its definition, it is clear that the information source in the case above is AirPutih, who has a purpose, a reason for engaging in communication.

2. The encoder

A communication encoder is responsible for taking the ideas of the source and putting them in code, expressing the source's purpose in the form of a message. On a phone conversation that is called transmitter in Shannon's terminology, the phone is the encoder that does the job of turning the sounds into electrical impulses. On face-to-face communication, the encoding process is performed by the motor skills of the source such as lip and tongue movements, the lungs, face muscles, etc.

The inclusion of encoding and decoding processes draws the attention to the possibility of a mismatch between the operation of the encoding and decoding devices, which can cause noise. The source may wonder whether the picture in the receiver's head will bear any resemblance to what's in his/her own.

Broaden it into the social level, the mismatch between the operation and the encoding and decoding devices is shown in the case of AirPutih on the different message that was sent by AirPutih and that was received by the locals. The noise created is a huge issue.

3. The message

Message is whatever is communicated. The simplest way of regarding human communication is to consider it as the sending from one person to another of meaningful messages. (Denis McQuail. 1975. *Communication*).

Shannon-Weaver model does not intent to yield into the meaning of message. Instead it separates message from other components of the process of communication. In reality, message is examined within the context of all the other interlinked elements. This may be a criticism of the application of this model to the more general human-to-human communication. Meanings are assumed to be contained within the signs used in the message, and the receiver can somehow take them out again. Matters such as the social context in which the message is transmitted, the assumptions made by source and receiver, their past experiences and so on are disregarded. In this respect, models which incorporate such factors are probably more revealing of the complexity of the communication process.

Nevertheless, message that was brought by AirPutih is very clear, that they wanted to assist the locals by redeveloping the information infrastructure. However, the social context that surrounds the message is very complex that message is sometimes rejected.

4. The channel

The choice of the appropriate channel is a vitally important choice in communication. Visual channel is definitely a wrong channel to communicate with the blind, neither an auditory channel is with the deaf. AirPutih chose to transmit their message by conducting an information infrastructure re-building for the locals. It is a perfect choice as it is the area of expertise of AirPutih and it is what is most needed by the locals. With this infrastructure, the world would see the situation on site and the locals would have the aids they needed.

5. The decoder

Just as a source needs an encoder to translate her/his purposes into a message, the receiver needs a decoder to retranslate. Appropriate equipment is necessary to decode the message that has been sent. In Aceh, the locals' decoder is some extent of basic knowledge of information technology or at least an open mind to accept new information. In some cases,

when the locals do not equip with any knowledge at all or do not have an open mind to accept new information, the message is then received differently, that resulted on rejection of the message.

6. The receiver

The receiver is somebody at the other end of the channel. Information transmitter and receivers (or destination) must be similar systems as if they are not, communication cannot occur. This means that if one calls by a phone than it should be a phone at the other end, too, not a phone connected to a radio. A blind person uses his/her mental equipment to decode gestures but no system for receiving message in the visual channel. In the case of AirPutih, the receiver of their message is of course the locals. Or to follow the rule of 'information transmitter and receivers must be similar systems' then it will be the locals who understand basic knowledge of information technology or an open mind to accept new information.

Another vital element in Shannon-Weaver model is Feedback. Over the phone, the 'mmm', 'aaahh', 'I see', and so on, assure the person at the other end that the message is clearly understood. This does the same to the face-to-face communication. Every human being loves to have feedback on anything s/he does, especially the positive ones: baby's laugh when the father ticks her, a tap on a shoulder after a good work, or an increasing number of sales after some product advertisement. In the case of AirPutih, besides positive comments on their work, they received invitations for further collaborations including invitation to assist Part-15.org in Joint Emergency Communication Relief Effort in support to the hurricane Katrina disaster in the US, after a successful hard work in Aceh. However, the Shannon-Weaver model does not include the surrounding of the message or the 'noise' as Serres mentioned before.

Looking back to Serres' point of view, the message that AirPutih sent definitely has a complex noise as what is communicated is not just a message but an entire social collectivity, coming through the channel, agitating both the encoder and the decoder, that resulted on the disturbance of the message dispatched. The locals were affected by the noise that surrounded the message.

Noise occurs between two positions in an informational circuit and disrupts messages exchanged between them. The parasite presents itself at first in a negative guise: it is viewed as a malfunction, an error, or a noise within a given system. Its appearance evokes some strategy of exclusion. For functioning a system to perfection, all parasites have to be eliminated. The system is considered a primary and the parasite is a forged addition that is best to expel. In Aceh, the cultural difference and the devastated area are some parasites that interrupt the transmission of the message AirPutih wants to release to the Acehnese. These parasites are the ones to work on so they can be eliminated.

The parasite is an operator of destruction that threatens to break down a system but it can also be a constructive operator as well. The parasite provides a way of exploring a fundamental problem of information theory, namely, the relation between order and disorder. Parasites should not be viewed as a choice of either/or: either order or disorder, either constructiveness or destructiveness. It's a fluctuating concept.

*"[A]insi le bruit est chute dans le disordre, ainsi le bruit est le debut d'un ordre" (ibid. p.108).*

It can be both, depending on the context into which it is introduced and the transformations it provokes. Serres proceeds:

*"Le parasite est un operateur différentiel de changement. Il excite l'état du système.... L'écart produit est assez faible, il ne laisse pas prévoir, en général, une transformation, ni quelle transformation" (p. 263).*

The parasites that live in the channel where AirPutih was sending its message come out basically from, as mentioned before, the cultural difference, the devastated region, and other issues that can be shortened as the sociology of the message.

## 10.2 The Sociology of the Infocom

A disciplinary paradigm is to look at an order of specific facts, that distinct from others and that acquire a relative autonomy. Everyone recognizes the term sociology as “explaining the social by the social,” but this separates only theoretically, for the sake of intelligibility, not physically (Bourdieu, Chamboredon, Passeron, 1968; Perret in Dacheux, 2009).<sup>8</sup> As the explanation is built in the subject itself, then it is the point of view of the issue that creates the object. Therefore in sociology, there are no objects more sociological than others. The essence lays on the sociological treatment to the objects. In another word, sociology would not exist without a real concept, just like any other dimensions such as political, technical, psychological, language, etc. This goes the same with communication. Its science has developed as the phenomenon itself, yet difficult to distinguish, poses question.

If a discipline is a ‘point of view’ then it should be noted that points of view vary from one subject to another and it can not be compared because of the lack of absolute standard. This means that in one object, there are various relevant observations, or angle of views. In short, there are no points of view that are transcendent and integrated. Within this paradigm, it is legitimate to create coexistence among several views so that objects of research can be constructed (Lahire, 1998). Hence, there is futility of jurisdiction conflict between the perspective of actors and the view of signs. There is also a fact that researchers are showed up to build, clarify, and defend particular approaches, and present them as such on the market, as did Alex Mucchielli example (2000).

In his book *Hidden Dimension*, anthropologist Edward T. Hall put up a concept that is called Proxemics, suggesting that people from different cultures inhabit different sensory worlds. Experience perceived through one set of culturally pattern sensory screens is quite different from experience perceived through another. This thesis is borrowed from Benjamin Lee Whorf’s idea of language (language is conceived not only as a medium of expressing thought but as a major element in the formation of thought) that Hall applies to all human behavior and culture. The relationship between humans and the cultural dimension (of which proxemics is part of it), is one in which both humans and their environment participate in molding each other. Humans are in a position of creating the worlds in which they live, which determine what kind of an organism they will be. (connected to Foucault)

Should we take any communication as face-to-face interaction then every interaction is not necessarily a communication but a routine social with cultural adjustment. The cultural adjustment is most often unconscious (Hall, 1984; Winkin, 1996). This means that it is subject to many disturbances which in Serres words, are noises and parasites. When these disruptions occur, the interaction becomes communication.

Going further into culture differences by speaking out Hannerz mind on the locals and the non-locals that he calls the cosmopolitans, “*the transnational and the territorial cultures of the world are entangled with one another in manifold ways*” (1990:244). It emphasizes that locals and cosmopolitans represent two interdependent categories that have different point of views. To the locals, diversity allows them “to stick to their respective cultures”, while the cosmopolitans find “value in diversity as such”, the sheer existence of which allows them to feel at home in the world at large, traversing its variety of cultural expressions (ibid.: 250, quoted in Uimonen 2004). Thus, he concludes, “there can be no cosmopolitans without locals” (ibid.).

<sup>8</sup> Bourdieu, P., Chamboredon, J.-C., Passeron, J.-C., *Le métier de sociologue*, Paris. Mouton/Bordas, 1968. Perret, Jean-Baptiste. Le SIC : Essai de Definition. Dans Les Sciences de l’Information et de la Communication. Coordonnee par Eric Dacheux. Paris. CNRS Edition. 2009.

In the midst of these cultural differences, there is AirPutih team, whose activities are contributing to the changes. Positioned within, or in close proximity to the state apparatus, they represent the new generation of nation builders whose worldview has been shaped by exposure to global trends. Their lifestyles are closed to the emerging middle class: mobile, metropolitan, transnational, and connected. They firmly believe in the transformative powers of the Internet, actively seek to spread its benefits through society. In their opinion, the Internet is ushering in a new social order, one that is even more individualized, it is more interactive and above all, global. They try to realign the devastated region Aceh with these changes, embedding the locals in transnational webs of interaction and communication. In so doing, they are contributing to the merge of cultural differences. And perhaps, along with this issue, the most suggestive elements of Serres's study of the parasite should be checked-in again: those pertaining to the problem of human relations. Many recent discussions concerning social structures have tended to emphasize the problematic of exchange. Human interaction is seen as reciprocal, as a process of give and take in which one has to pay in kind for what one receives. The introduction of the notion of the parasite puts into question the crypto-egalitarian ideology of exchange. In fact, Serres suggests, people always attempt to locate a position from which they can take without having to repay their debts.

*"L'échange n'a pas lieu, il n'aura jamais lieu. L'abus parait, même avant l'us, il faudra dire abus et coutumes" (p. 14).*

Men are not equal. The producer will always fall prey to the parasite. Why?

*"Le producteur joue le contenu, le parasite joue la position. ... Celui qui joue le contenu joue l'objet. ... Celui qui joue la position joue les rapports entre sujets, il gagne donc la maîtrise des hommes. Et le maître des hommes est le maître des maîtres du monde" (pp. 54-55).*

The parasite is he who is well-versed in the art of human relations, who can discover the point from which he can siphon off productive forces while not being held accountable.

As Javanese among the Acehnese and working for the Acehnese' good, AirPutih has sent its message to the locals with many parasites along the channel that makes the decoder create different ideas at the other end of the channel. The Bireuen<sup>9</sup> team leader Heru Nugroho reported that the Bireuen district authority rejected the idea of having an Internet connection in his area. It appeared that they had some bad experience in the past. There were rumors about a cyber-café where one of the customers clicked on a porn-site. The cyber-café was forced to close down and the customer was publicly flogged. Bireuen was indeed one of the districts where strong Muslim beliefs and traditions were held high. The district head did not see the advantage of having an Internet connection in the area. The district authority was also concerned that additional Internet access might compromise the area's local identity. Talk about firewalls and other filtering programs did not change the district authority's opinion. Greater global exposure about the Internet does not lead to greater understanding and appreciation locally.

In a hard case such as the above, AirPutih preferred to pull back a little bit while planning on a strategy to sink in the message into the locals. As Javanese, AirPutih has a concern to create cosmos harmony that makes them retreat and do not like to confront others directly. Again, the most respected ability is to describe or to utter unpleasant things indirectly. Bad news, warnings, and demands are prepared and wrapped in a well-mannered communication (in previous age, they should use high language which of course has only limited vocabulary so there was no possibility of wrong saying). A conversation often looks like just a chit-chat before the real subject comes up. This way, both parties have time to adjust and to develop their emotion into the next step. When they reach the issue that matter the most, it is assumed that there will be no longer any

<sup>9</sup> One of Aceh districts.

dangers to expect emotional reaction. In fact, sometimes, one does not need to say the matter out loud, expecting the opponent party to be aware of what the matter is. This is how AirPutih worked and Acehnese respects them for it. This seems to be AirPutih's strategy in communicating their message to the locals and reducing the level of the parasite in the channel.

### 10.3 Communication Strategy

My ten years personal experience working in advertising business open up my very eyes that sending a message is not a simple thing. We should have a strategy so that the message reaches the target with as less noise as possible. We should have good knowledge on the product/subject we should send, should understand the target market, and should find the perfect media or channel that make the target able to well-absorb the message dispatched. It is a common knowledge that a beer commercial should not be aired or publicized in children's program or children's magazine. But it needs more hard work to understand why in any beer commercials in Indonesia you will not find any images on the product and the action of people drinking beer. It is a hard work as a scholar will put efforts to know why there is such regulation for Indonesian beer commercials, while a practitioner needs to know how to tell the audience that they are watching a beer commercial without showing any images on the product or action of the people drinking beer. These two understandings become the basis of the strategy on sending the beer message to the audience.

Going a little bit further on detail of the beer commercial, a scholar would find out that Indonesia has the most populous Muslims in the world that broadcasting alcohol is not going to be a popular item to deal with. It is just against the holy Al-Quran. And because of this regulation, the advertising people should thus use their creativity to go around this regulation to still reach the audience and make them understanding the message they send behind the commercial. The audience should still see they are sending beers even without seeing any products or any images of people drinking it. The advertising people should come up with some strategies.

Corresponding to the above, AirPutih has the same issue on creating a strategy to communicate with the locals. There are three things they should know before sending the message. First is a good knowledge on the subject which in this case is information infrastructure. Second is to understand the target market or receiver as Shannon says, which means the Acehnese. Third is to find the perfect way to send the message, which is when the strategy is needed.

AirPutih's strategy to communicate to the locals comes from within each of anyone of them, in their cultural behavior. Culture is a complex series of interrelated activities, with roots buried in the past, in infra-culture, behavior that preceded culture but later became elaborated by humans into culture (Hall: 1959. *The Silent Language*).

Looking back into the root of their ancestors' belief, as Javanese, AirPutih had a concern on making the world in harmony. They help Acehnese survivors to create a well-being cosmos. This pursuit of harmony becomes a reason to help distant relatives who are in trouble, no matter whether they like the persons or not, or whether they know the persons or not. Javanese are used to treat others like members of their own family. This usually makes newcomers feel welcome when they first show up in AirPutih office.

A polite Javanese usually avoid speaking out bluntly so there will not be any regretful reactions from all parties. Both negative and positive feelings and emotions are well covered. People do not know the turmoil inside Javanese's mind. One can just have a huge mourning of the death of a closest person but he should be expected to smile all the time. This is to maintain the intimacy to always be at the mid-level. By not showing the real information on feelings, both parties therefore have freedom to develop conversation on any direction. Truth or facts usually lead conversation to an exact direction which doesn't open any possibilities to avoid frictions.

Within the above context, Javanese tries not to be involved in other people's personal issues although it doesn't mean that they do not want to know. Apart from the responsibility to help others, Javanese tries not to get involved with the people they help, that might be full of emotions.

Again, Javanese tries not to be involved in other people's internal issues but it does not mean they do not know or they do not talk about it. They just do not want to have any spark of conflict with people they do not feel close to. Javanese are only comfortable with nuclear family. They can shout, scream, and be who they really are in this closest circle of theirs who are assumed never able to give them any negative judgement but love and care. And in the case of AirPutih, each member considers other members as family, the only 'family' they had in Aceh. In another word, Javanese always try to avoid conflict in order not to disturb the cosmos harmony. In doing so, Javanese receives supports from family members.

In creating cosmos harmony, Javanese believe that should they do good deeds, the reward will come. The latter might not directly be received at the same time and might not come from the same person/party they help, or the same way. Yet, the reward will definitely be waiting for them. With this thought, Javanese do not count how many times they help others. The more they help, the more they will receive rewards.

Javanese also believe that the best thing to keep the cosmos in harmony is by surrender to life. Life can not be fought so it is better to surrender. By surrender, they go along the stream, not fighting it. Life will be easier to live on and to deal with. However, it should be noted that Javanese do not consider surrender an easy task. People should confront their lust for worldly matters to be able to surrender so it is a struggling within oneself. One way to do this is by putting other people's interests first before oneself.

AirPutih still volunteered even when they did not agree with the way the local government did to the Moslems. Their belief told them to do good without measuring how much they would get in return. Roim already had a steady job in Jakarta when he heard about AirPutih and Aceh. He asked for leave right away and somehow, he never returned to his previous office. Okta was in the process of getting a job that fitted his educational background, law and justice. Instead, he went to Aceh, joined AirPutih, then like Roim, he never returned, especially that he is then married to Tasha, the Acehnese girl who is used to assist AirPutih in Aceh.

On the receiver part at the other end of the channel, there is Acehnese who has their own background of culture and history. Anthony Reid looks at Aceh history under the fierce competition between Dutch and British trade companies and observed that Aceh had endured various regimes prior to Dutch colonialism that helped in forming the Acehnese identity (Reid: 1969, 2005).<sup>10</sup> As mentioned before, in its long history, Acehnese is one of the ethnic groups in Indonesia that had never surrendered to any outsiders who wanted to take advantage of their land, including the Central Government of Indonesia in the latest years. They never stop fighting to protect their land and for that, they have always been very proud of being great defender to their land.

Another issue that has given them pride is the Islamic way of life that has been inherited from their ancestors since centuries ago. The region is even nicknamed the Veranda of Mecca as an account of this history, designating the region for its close relation to the Holy Mecca, also a reminder that in the early years, Aceh was the point of departure for the Indonesians who set forth to Mecca for a pilgrimage. The region has thus been granted a special region by Indonesian central government. This means that Aceh is allowed to govern their region themselves without strict watch from the central government.

As culture controls behavior in deep and persisting ways that many of which are outside awareness (Hall: 1959. *The Silent Language*), AirPutih and the Acehnese developed their

<sup>10</sup> Reid, Anthony (1969). *The Contest for North Sumatra: Atjeh, the Netherlands and Britain 1858–1898*. London: Oxford University Press. Reid, Anthony (2005). *An Indonesian Frontier, Acehnese and Other Histories of Sumatra*. Singapore: Singapore University Press.

communication beyond their consciousness. For centuries, Acehnese have always been proud of whom they are and they bravely oppose those who are against them. However, they loved AirPutih for AirPutih did not challenge them on their way of life. When things did not go as plan, AirPutih went around the case to solve the problem, not just confronting the locals on the spot.

However, this communication was not carried out easily at the very first time. AirPutih had to restrain their emotion and work hard to deal with it. As Malinowski says, first impressions can be misleading (1961: 6-8)<sup>11</sup> but they can also be illuminating. First impressions carry a certain investigative value, shaping some of the biases. First encounter allows people to commence the lengthy process of immersion into what typically constitutes a new social and cultural environment. With time, the obvious no longer strikes them as they become immersed into their new environment and accustomed to the differences that they first noted acutely. Nonetheless, it is useful to recall the first and relatively ‘untainted’ reactions so that certain ‘hunches’ can be developed as guidance for years to come (Bateson 1972: 75).<sup>12</sup>

Nevertheless, the ‘time’ mentioned to adjust to local culture can sometime not be so short. Even after two years living in Aceh, AirPutih still had a hard time accepting the local regulation on how Moslems should behave. Most members of AirPutih come from Malang, East Java. They, too, are Moslems but they cursed the way Aceh government ran the Moslems regulation. In between the work to establish the internet infrastructure, discreetly in the car, they would scream (please excuse the language), “Screw you...!” when they passed the Syariah police station, Wilayatul Hisbah (WH). In the office, they questioned the Acehnese raid of women with bad hijab, adultery, gambling, etc. They said, “Mind your own business, sir! How much money have you been stealing from the aid projects? Or ‘no corruption’ just doesn’t exist in your Quran?”

The above shows tiny part of AirPutih’s ‘hard’ disagreement of Aceh government’s regulation on Moslems. Nevertheless, whatever strong their disagreement was, AirPutih never showed it in public. When they had to meet the local authorities or to go out in public, they still followed the local regulation. This attitude gained the respect from the locals. Positive feedback is not only like having peer recognition but also kind of an approval on each other position in the cosmos. It told AirPutih that what they did is correct. They did not get involved in the local issues which were not their business.

In facing Bireuen authority that was quite a bit obstinate on having WiFi in their office, AirPutih had decided to retreat before addressing a distress call to the provincial authority to help them convincing the Bireuen district authority to put up the WiFi tower. Again, the top-down bureaucracy supported AirPutih to deal with local difficulties.

#### **10.4 The Culture of Networking<sup>13</sup>**

In a devastated area with natural disaster, the party who has to lead the aid troops is the authority. They have all the rights and responsibilities to take care of their citizen in the area. However, they need help to manage the aid coming from everywhere in the world.

In Aceh, with a huge natural disaster attacked only in within less than an hour, the feeling of shock covered the whole region, including the authority. The Head of Aceh Telecommunication Service, Syaiful Kamal, was still in need to think about the safety of his own family, his employees, and his employees’ family, in between his duties to save Base Transceiver Station, to report the condition to central office in Jakarta, and to get help both for the survivors and the phone-line network facilities.<sup>14</sup>

AirPutih motivation and intention came to rescue this. They rebuilt the internet network facilities. Nobody asked them but they did it, anyway, because, as Roim told me once, “The local authorities must help the survivors. That is their top priority. So we do other things that we know

<sup>11</sup> Malinowski, Bronislaw. 1961. *Argonauts of the Western Pacific. An Account of Native Enterprise and Adventure in the Archipelagoes of Melanesia and New Guinea*. New York: E.P. Dutton & Co. Inc.

<sup>12</sup> Bateson, Gregory. 1972. *Steps to an Ecology of Mind*. New York: Ballantine Books.

<sup>13</sup> Term mentioned by Uimonen, 2004.

<sup>14</sup> PT Telkom Tbk & Pusat Data dan Analisa TEMPO. *Bangkit dari Puing-Puing Gempa dan Tsunami: Pemulihan Telekomunikasi di Nanggroe Aceh Darussalam*. Juni 2005.

is also important and that we are capable of, that is (re)building the communication network.” With this in mind, AirPutih made all effort to first put up a tower in Banda Aceh’s main Post Office and the Governor’s residence which served as the headquarter for governmental operations, to make possible for the authorities to connect with other parties involved and to conduct the aid.

In short, the diffusion of innovation that AirPutih created was transferred in a quick way, very much quicker than what Rogers (1962) suggests. The urgency to build a VSAT tower matched the high enthusiasm of each members of AirPutih to help. Therefore AirPutih did not waste time to sit down. They looked around quickly, searching for what they needed, asking anyone who they believed had access to things. And it appears that in such an emergency situation like the tsunami aftermath in Aceh, outsiders’ aid is mostly what people needed. As the inhabitants or the survivors are usually in a panic state of mind to take care of the mess, the outsiders are the ones with clear head to see what are necessary.

The term ‘Government’ is acquired as process of governing, especially on the control and administration of public policy in a political unit. A government is the agency through which a political unit exercises its authority, controls and administers public policy, and directs and controls the actions of its members or subjects. However, ‘governance’ is discussed not only in political tracts, but also in other texts such as in philosophy, religion, medicine, pedagogy, etc, with some issues involved. The definition selected of the corporate governance, for instance, “together of the operating rules and control which govern, in a historical and geographical framework given, the life of the companies” (Pastré, 1994),<sup>15</sup> does not limit the questionings to the simple conflict shareholder-leaders. The system concerns all the social actors: “it puts order in their actions and it gives them orders” (Gomez, 1997). It is in the middle of the problems of the interactions between the individuals who compose an institutional entity in the broad sense (companies, public agencies, etc).

In addition, ‘government’ also signifies problems of self-control, guidance for the family, and for children, management of the household, directing the soul, etc. Along with this line, Foucault defines government as conduct, or, more precisely, as the ‘conduct of conduct’ and therefore it is a term that ranges from ‘governing the self’ to ‘governing others.’ All in all, in his history of *governmentality*, Foucault attempts to show how the modern sovereign state and the modern autonomous individual codetermine each other’s emergence (Lemke: 2001, p.191)<sup>16</sup>.

The notion ‘conduct of conduct’ is quite helpful in understanding power and practice because it focuses on how government governs the complex of ‘men and things’ –including culture– so that the subject of *governmentality* is self-managed (Foucault 2007, p.96-7).<sup>17</sup> Another Foucault’s interesting methodological principle is “going behind the institution and trying to discover in a wider and more overall perspective what we can broadly call a technology of power” (ibid, p.117).

Retrieving the previous example on the cooperation between AirPutih and the government when AirPutih (under another institution) assisted local government to create WiFi in all authorities office, Okta Setiawan who is now the Coordinator for AirPutih Banda Aceh said that to get the inhabitants on understanding the use of, let alone the importance of, computer and the Internet, it is better to go via the authorities. This might be based on the common ‘belief’ of inhabitants that working in the governmental institutions or being a civil servant is like putting yourself at a higher level than other people working in other line of business. The same belief came from Tasha’s mother.

<sup>15</sup> Pastré, O. (1994), « Le gouvernement d’entreprise. Questions de méthodes et enjeux théoriques », *Revue d’économie financière*, n° 31, p. 15-32.

<sup>16</sup> Lemke, T. (2001). The birth of bio-politics: Michel Foucault’s lecture at the College de France on neoliberal governmentality. *Economy and Society*, 30(2), 190-207.

<sup>17</sup> Foucault, M. (2007). *Security, territory, population: Lectures at the Collège de France 1977-1978*. (G. Burchell, Trans.). Houndsmills, Basingstoke, Hampshire: Palgrave Macmillan.



The particular belief above is interesting. I always thought that this belief is only applied in traditional Java where society is divided into aristocracy and farmer. Only those who were coming from the aristocracy class could enjoy the ‘luxuries’ with the Dutch colonial. And working with this class meant that you also received some parts of the luxuries. Government is definitely the one that cooperates with this class and the Dutch. Therefore working in government institutions was a dream and a goal of everyone at that time.

Apparently this belief is also applied in Aceh. It may be, even in different package, because of the existence of aristocracy class in Aceh. These days, the rich replaces the position of aristocracy. When Tasha was waiting for a job-reply from a private business institution, her mother always told her to also apply for a position in governmental institution. The belief gave a chance to AirPutih to spread knowledge of computers and the internet, via the assistance of the authorities.

Representing an interactive, decentralized media technology, the internet provides an individualized means of creating and sharing knowledge (Lévy 1997; Shapiro 1999). This knowledge-sharing aspect of the Internet is also pronounced in the ethos of the culture of networking, along with its libertarian underpinnings.

Nonetheless, as much as WiFi/Internet is compatible with the mobile lifestyles of the middle classes, and as much as the provincial government has sought to promote its development over the regions as a means to reach a more modernized status, information infrastructure development has brought about a set of tensions. The characteristics of the culture of networking tend to collide with centralized systems, the most articulated expression of which is the state bureaucracy. Seeing that the state bureaucracy in Indonesia has been of a particularly elitist nature, it is not surprising that the culture of networking has represented a profound challenge to the maintenance of political control.

The culture of networking is a term used by Paula Uimonen (2004, pg.1) to capture the social and cultural embeddedness of the Internet. It reflects the technical interfaces of the Internet and the ideas and values that have accompanied their development. This term comes out after the concept of ‘cultural management’ (Hannerz 1992a) that positioning culture in the loci of human minds and public forms, focusing on how actors and networks of actors continuously invent, maintain, reflect upon, experiment with, and reproduce culture (ibid.: 17). This concept allows for an appraisal of asymmetric power relations, showing how certain social forces are more influential than others in the production of cultural meaning. Hannerz identifies four organizational frameworks that encompass most contemporary cultural processes: state, market, form of life and movement (ibid.: 46-47). This concept of cultural management shows some networks of perspectives interact along different dimensions. It works well with Foucault’s analysis of power and knowledge in terms of discursive formations.

Positioned in close proximity to the state apparatus, AirPutih was engaged in the state’s production of meaning. Nonetheless, acculturated in the culture of networking, the underpinnings of which inform their form of life, they also diverge from this dominant organizational framework. The culture of networking represents a subculture in the sense of being a “segment of a larger culture” (ibid.: 69). In their role as experts, AirPutih traverse the subculture of the culture of networking and the dominant culture of the state apparatus. In so doing, they are engaged in the production and mediation of meaning that information infrastructure development entails, while their vanguard positioning in this process takes the form of a cultural movement.

Nevertheless, in the move, AirPutih organized their step very clearly.

## **10.5 Governing the Organization**

I agree with Wiryana (2009) that as an organization, AirPutih had a very flexible structure. They minimized administrative paperwork and bureaucracy so their operation could run faster than “normal” organization, reducing the time-required. Everyone could join the organization and got involved in any activities. There was no registration and no complicated paper-works to fill in.

Each volunteer could choose what he could contribute, based on his own capability, his own interest and his own time, and started to work right away. The tasks were divided into a small and doable work. Many works were very simple, highly parallel and independent. This means that many works did not need coordination with other parties so volunteers did not have to wait for others to finish them. They are not officially bonded. However, volunteerism spirit made volunteers ready to cooperate with other colleagues and parties to perform any activities.

A small work contributes positively in the whole system. Since before the tsunami, there was not many telecommunication and Internet infrastructure in Aceh. Therefore a small contribution will provide a significant result.

The environment is socially co-operative. Before the tsunami, the political situation in Aceh was in a conflict situation. However, during the relief actions, some parties were willing to co-operative to do the relief actions.

There is also freedom of organization. Since everybody voluntarily joined AirPutih, they are ready to co-operative each other in performing activities. Other organizations and persons which interact with AirPutih also establish the works in voluntarily basis. Anyone can establish the collaboration without considering their official organizations or groups. The attachment to the official organization was not strong.

Their willing to share their knowledge to the locals, their openness on what they doing gained the trust of others, the decentralization or what they called the delegation of jobs created flexibility, and their willing to give free access to computers to everyone brought love back to them. These all pulled in improvement on what the world said about them.

As Himanen (2001) proposed, AirPutih that is here represented the hackers, oppose hierarchical operation for such ethical reasons as that it easily leads to a culture in which people are humiliated, but they also think that the nonhierarchical manner is the most effective one.

Hackers have learned from experience that the lack of strong structures is one of the reasons why this model is so powerful. Hackers can just start to realize their passions and then network with other individuals who share them. This spirit clearly differs from that found not only in business but also in government. In governmental agencies, the idea of authority permeates an action even more strongly than it does in companies. For the hackers, the typical governmental way of having endless meetings, forming countless committees, drafting tedious strategy papers, and so on before anything happens is at least as great a pain as doing market research to justify an idea before you can start to create.

But the relative lack of structure does not mean that there are no structures. Despite its apparent tumult, hackerism does not exist in a state of anarchy any more than science does. Hacker projects have their relative guiding figures, such as Torvalds, whose task it is to help in determining direction and supporting the creativity of others. In addition, hacker models have a special publication structure. Research is open to anyone, but in practice contributions included in reputable scientific publications are selected by a smaller group of referees. Still, this model is designed so as to guarantee that, in the long run, it is the truth that determines the referee group rather than the other way around. The hacker network's referee group retains its position only as long as its choices correspond to the considered choices of the entire peer community. If the referee group is unable to do this, the community bypasses it and creates new channels. This means that at the bottom the authority status is open to anyone and is based only on achievement – no one can achieve permanent tenure. No one can assume a position in which his or her work could not be reviewed by peers, just as anyone else's creations can be.

Hackers are like teachers or assemblers of information sources are often those who have just learned something. This is beneficial because often someone just engaged in the study of a subject is better able to teach it to others than the expert who no longer comes to it fresh and has, in a way, already lost his grasp of how novices think. For an expert, empathizing with someone who is just learning something involves levels of simplification that he or she often resists for intellectual reasons. Nor does the expert necessarily find the teaching of basics very satisfying,

while a student may find doing such teaching tremendously rewarding, since he or she does not as a rule get to enjoy the position of instructor and is generally not given sufficient opportunity to use his or her talents. The process of teaching also involves by its very nature the comprehensive analysis of subject matter. If one is really able to teach something to others, one must already made the material very clear to oneself. While preparing the material, one has to consider it carefully from the point of view of possible further questions and counterarguments.

Students were not regarded as targets for knowledge transmission but were referred to as companions in learning. It was not the teacher's task to inculcate the students with pre-established knowledge but to help them give birth to things from their own starting points.

For this they need a framework. The leader of the team then may live on some kind of a "father" who does not castrate, does not invite passivity. He should stimulate and makes others want to do better, always faster and faster. In AirPutih, the person in charge for assignment was also flexible. This way, when he was needed somewhere else he could just leave as there would be another person replacing him with the same capacity and knowledge of the work as he did. The work was result-oriented.

Hackers are usually opposing the government. Yet, in a matter of hackers' work in disaster area, the resistance to authority did not exist, or should not be existed. AirPutih went along with the government to work on the tasks. They embraced the authority. In fact, indirectly, they worked for the government. Of course, the success is a result of a great collaboration work that AirPutih did with their connections.

## 10.6 Collaboration Work

As one informant put it, reflecting on the ability to meet like-minded people over the Internet: "This facilitation fosters a broad sense of community which I feel will lead to better cross-cultural understanding and harmony." It has already been ascertained that one of the factors contributing to the construction of the 'imagined communities' of nations has been the evolution of new means to disseminate information, at the time print capitalism (Anderson 1983).<sup>18</sup>

I was not around when AirPutih started their voluntary life in Aceh but I happened to witness the enthusiasm of one of them during my three months stay in their place. <sup>19</sup>At that time, March 3<sup>rd</sup>, 2006, at about 23pm, Imron Fauzi, or "Roim" as friends called him, looked down at the screen of my old laptop Apple iBookG4 with full attention. He was trying to relate my dreamweaver-based website to AirPutih network so I could connect the French server ftperso.free.fr in Paris to upload my research findings. I could not do that myself, neither from the site nor from the webftp. Yet this particular issue that usually took only 2 minutes in other people's laptop was 15 minutes on mine. I told Roim to put it on rest as my French iBookG4 might give him even more troubles: French server, French language-base features, and French keyboard. He said, "No. You translate it for me so I understand the most part of it. And it should work. Others did well. I wonder why this one refuses. Just give me more time. This is fascinating." The 15 minutes then became almost one hour with him finally said, "Let's talk to Made."

I Made Wiryana or shortly called Made, is founder of the Indonesian Linux who was at the time based in Germany, trying to finish his PhD dissertation, and was (is) the advisor of AirPutih. I chatted with him via Yahoo Messenger, watched closely by Roim and other curious AirPutih members. Made said that the AirPutih's local provider could be the one that blocked the ftp connection. Roim and I disagreed because recognizing French stereotype, it might be the French server that was closed to non-French network. However, as we were all very tired of the day's works, we decided to accept Made's suggestion on using his server to temporarily put all my fieldwork files. It was definitely an honor for me considering that Made was (is) the creator and administrator of the official website of the President of Republic Indonesia, S. Bambang

<sup>18</sup> Anderson, Benedict. 1983. *Imagined Communities. Reflections on the Origin and Development of Nationalism*. London: Verso.

<sup>19</sup> Based on [my field note](#), 03 March 2006.

Yudhoyono, and the server that bears this site is also one of his, of course with thick security layers.

In the end, it appeared that Roim and I were right. I sent an email to the administrator of French free.fr administrator and the reply was that free.fr server could only be reached from France (so much for my plan on using French-base website for documentation). Made was laughing when I told him this. He invited me to keep using his server for the research.

Roim's attitude is an example of common enthusiasm in AirPutih that would be representatives of hackers' enthusiasm. They always have an idea. They like to have ideas. They want to always stay creative and fight for something in a healthy competition.

The example also shows that hackers like to extend more invitation to others to join developing or solving problems. They like to ask tips about sources, to have anyone participating in the process. Raymond<sup>20</sup> called this 'The Bazaar' model where ideation is open to everyone. Ideas are handed out to be tested by others from the very beginning. This way, they benefit from external additions and criticism by others. People can try out different approaches and the brilliant idea will be adopted and built by everyone. In the end, anyone is welcome to use the results freely. As a result, they have peer recognition.

Apparently, peer recognition also motivates hackers to do more. Peer recognition gives hackers new challenges that motivate them to achieve further knowledge. When AirPutih's work was well-recognized and people offered them other tasks, they set up new problems as their new goals. Their enthusiasm remained high, knowing that their knowledge was usable for the locals. They even created agenda for the locals to receive their knowledge so the locals could develop their own ideas. So what was it that motivated AirPutih to contribute its time and effort to the development of devastated post-tsunami Aceh?

Lakhani and Wolf had already replied the similar question on their research. For them, it is enjoyment-based intrinsic motivation that drives F/OSS developer to give code away, revealing proprietary information, and helping strangers to solve their technical problems. And AirPutih, even not developer, had the same mindset.

As Himanen mentions in his book (2001: 73-74), a typical hackers' learning process starts out with setting up an interesting problem, working toward a solution by using various sources, then submitting the solution to extensive testing. Learning more about a subject becomes the hackers' passion. They never hesitated to ask for help with questions in areas in which they has not yet acquired expertise.

Hackers' learning teaches others. When hackers study something, they often develop it further, and others can learn from this work. When hackers check out information sources maintained on the Net, they often add helpful information from their own experience. An ongoing, critical, evolutionary discussion forms around various problems. The reward for participating in this discussion is peer recognition.

For AirPutih, the problem that was quickly set up after the tsunami in Aceh is "to establish internet infrastructure in the devastated Aceh." As they realized they did not really understand the situation and what to do on an emergency condition, they widened their network to learn from those who were more experienced. The results were obvious, as mentioned on chapter 5.

Like any other hackers, AirPutih had the will to share and transfer their knowledge to anybody needed, wherever possible. Their enthusiasm to see the final result moved them around to get appropriate equipment to establish the internet infrastructure. Besides the thought of

<sup>20</sup> [Raymond: 2000.](#)

emergencies that urged them to quickly finish the work, they also had the excitement on doing what they loved to do: computers and networking.

By looking at all the issues above, again it is not so puzzling to appoint the so-called irrational and altruistic behavior of hackers that Lakhani and Wolf discussed in their research: giving code away, revealing proprietary information, and helping strangers to solve their technical problems.

Now that we have some basics around how the message works, we move on to understand how the communication runs in a disaster area. We will also discuss the socio-cultural behind these issues.

<sup>i</sup> Onno Purbo. Wokbolic, What's That? [http://www.youtube.com/watch?v=b\\_7c\\_XDmySw](http://www.youtube.com/watch?v=b_7c_XDmySw)