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FROM TRIBAL ECONOMICS TO A MARKET-ORIENTED ECONOMY

A Study in the Social Adjustments Confronting the Dani of Irian Jaya in their Transition from Traditional Economic Practices to participation in a Market Society.

Doug Hayward

IKHTISAR


Kedatangan para pekabur inil dan kontak dengan dunia luar membawa beberapa perubahan dasar yang berlebihan yang mempengaruhi cara hidup orang Dani dan pada dasarnya telah membawa mereka keluar dari cara hidup tradisional ke kebudayaan ekonomi pasar yang baru yang merupakan kebudayaan peralihan ke dalam kehidupan masyarakat Indonesia. Peralihan ini telah menghasilkan sejumlah perubahan yang radikal
dalam struktur sosial, kegiatan-kegiatan sehari-hari, dan dalam kebangsaan dan identitas etnis orang Dani. Makalah ini bertujuan untuk mengisahkan sejarah perobahan tersebut yang telah terjadi, khususnya dalam hubungan dengan penyesuaian-penyesuaian sosial dan perobahan-perobahan dalam nilai-nilai budaya yang dihadapi orang-orang Dani dalam usaha mereka untuk mengintegrasikan pengertian mereka dan hubungan mereka dengan dunia luar yang makin bertambah itu ke dalam kehidupan dan kebudayaan mereka.

Perhatian utama dari makalah ini akan ditujukan kepada para penutur bahasa Lani atau Dani Barat, karena mereka yang bergairah sekali untuk merobah kebudayaan mereka dalam arti mengintegrasikan penemuan-penemuan baru dari dunia luar dengan nilai-nilai dan kebudayaan mereka yang tradisional.

Prior to 1954 the Dani of Irian Jaya, Indonesia were a relatively unknown and isolated tribal people numbering between 150,000 to 200,000. This total number included both the Grand Valley Dani of the Baliem and the Western Dani or Lani who lived in the western reaches of the Baliem and in the adjacent valleys to the south and west of the Baliem. Between 1954 and 1960, virtually every one of these Dani areas came into close proximity with the outside world as more than twenty mission stations and two government posts were opened up and airstrips were constructed.

The arrival of the missionaries and the outside world has brought some fundamental changes to the lifestyle of the Dani, not the least of which has been that of propelling them out of their traditional tribal way of life into that of a newly emerging market-oriented culture, living on the fringes of Indonesian society. That transition has resulted in a number of radical transformations in the social structures, daily activities, and ethnic pride and identity for the Dani. The purpose of this paper will be to chronicle those changes which have taken place, particularly in respect to social adjustments and changes in cultural values which confront the Dani as they seek to incorporate their growing awareness of the outside world and their increasing contacts with it into their life and culture.

The primary focus of this paper will be on the Western Dani or Lani-speaking segment of the populace inasmuch as it is they who have most enthusiastically sought to change their culture in order to integrate their new discoveries of the outside world with their traditional values and culture.

The Flow of Wealth in Traditional Dani Culture

In traditional Dani culture, life was organized around expanding circles of relationships. Those closest to an individual were his family members and fellow villagers. Each village consisted of a central men’s house, and then a number of accompanying family residences for their wives. Beyond the village was a second circle of relationships which consisted of one or more villages that acted in close cooperation with one’s own village, as a parish level form of social interaction. A third circle of social acquaintances were those villages that were part of the alliance, and with
whom work parties were organized, or from whom marriage partners were chosen. In the outermost ring of these expanding circles were those villages which constituted a segment of the military confederacy and from which one could call for military assistance in times of need. Beyond these circles there existed only one's enemies, or possibly more foreigners who were members of other tribal groups. Trade partnerships were formed and flowed through every one of these circles of associations and permitted for the economic well-being of the group.

Within these circles of acquaintances one sought to carry out the daily affairs of life. Food came from one's own gardens, and as long as there was an abundance, it was shared freely with other members of the men's houses. Leadership of the group was typically in the big man tradition of Melanesia. Every men's house had at least one outstanding man, or big man, and from among these men there were those who were acknowledged as having wider circles of authority which had been gained through their shrewd use of wealth and negotiations. Their leadership was due to a combination of demonstrated skills in respect to commanding prestige, negotiating disputes, bravery in wars and feuds, success in finanaces, magical powers, and outstanding generosity. (See also Sahlins 1963:290-291).

The flow of wealth in Dani society was determined by the individual intricacies of one's web of relatives, neighbors, and trading partners. The kinds of wealth which flowed through these connections included the following items:

1. food
2. animals
3. tools
4. clothing
5. decorations
6. shell money
7. ceremonial stones

Pandanus, sweet potatoes, salt ash blocks, pork, pigs, dogs, spears, bows, arrows, axes, digging sticks, chisels, gourds, skirts, net bags, rain capes, feathers, arm bands, bailer shells, cowrie shells, shell bands similar to stone axes, but slightly different & larger

Wealth was exchanged between individuals in one or more of the following four ways:

1. In the giving of a gift or loan
2. In a formal trade negotiation or agreement.
3. As a restitution payment.
4. As a part of some larger ceremonial prestation such as birth payments, indemnity payments, marriage payments or death payments.

The majority of Dani wealth transactions took place in the various prestations, rather than in any of the other three forms of transactions. Gifts of loans only flowed between the closest of friends or, relatives and usually involved only very small or common forms of wealth items. In such a transaction a man would give or loan a gourd to another, or a woman would loan a new skirt to another woman for a particular festive occasion, or food might be given to a friend in need. The nature of such gifts or loans were usually in the context of an
immediate or unexpected need, and because the value was low and the item easily replaced, repayment was not sought or expected. Such sharing was an expected part of good-neighborliness.

Restitution payments were also a minor form of wealth transfer which occurred whenever an individual was responsible for damages to some one else's goods or livestock, a personal injury, or for a sexual offense. In such instances, if an individual through carelessness caused a dwelling to burn down, allowed a pig into another person's garden, or injured another's livestock, he would be required to make a payment of restitution equal in value to the loss sustained. This payment was known as maluk ongo or ka, and would be borne by the individual himself, although he could call upon relatives to assist him if he was unable to pay immediately, and it was paid to the persons who sustained the loss. Payments for personal injury were known as ame'nggo payments and were made to individuals who were injured either in an argument, or in a brawl, or in an accident while they were working on someone's behalf. So if an individual, family, or village called upon its neighbors or fellow clansmen to assist in the opening of a new garden, anyone injured during that time could expect compensation from the man or men who called the work party. Unless there was a loss of life, though, such payments were small, ranging from a few cowrie shells to a baby pig.

Trade negotiations could vary in size from very small transfers of wealth to moderately large ones. A small trade transaction would be in the form of the purchase of net bags of food for cowrie shells, or similar low value goods, by a trading party passing through an area. More typically a trading partner relationship would be set up some time in advance and a prospective deal would be agreed upon. In the interim period both parties would seek to make ready the choice of goods, which typically involved a payment in pigs in return for stone axes, salt ash blocks, or possibly even some shell bands, or a particularly good bailer shell. At the time of the actual transfer of goods the difference between expectations and actuality would be settled. Thus if a pig was larger or smaller than anticipated, or if the salt or axe was valued higher or lower, the difference in value was compensated by the addition of other wealth items such as feathers, cowrie shells, stone chisels, or any number of the other wealth items listed previously.

Trading enterprises were very often oriented to an immediate need for some particular goods. A trip to the axe quarry, the salt wells, or a trading partner was planned in order to secure the necessary goods for a bride wealth payment, a compensation payment or some other pressing prestation. Because of this particular orientation in trade ventures, it becomes even more apparent that the major flow of wealth took place in the prestations. It is to these prestations that we now turn.

Birth ceremonies were the least important of the prestations and were even nonexistent in some Dani areas. In the Konda Valley, and in the Baliem Valley where they were practiced, payment consisted of a few cowrie shells or a small pig feast. Indemnification payments on the other hand were large payments that involved the transfer of a great deal of wealth. Indemnification payments were required whenever a death occurred among one's friends or relatives.
as a result of an accident or as a battlefield casualty. Whenever a big man or fighting leader called upon his allies to go to war on behalf of his need for retribution and justice, he had to be prepared at the conclusion of the hostilities (which was often only an interim truce) to repay the relatives of his allies for any loss of life which they may have sustained. In the settlement of such indemnification payments a big man would call upon his supporters to assist him in making these payments, which varied in size from area to area. In the Ila Valley they consisted of up to 60 pigs per warrior, while in the Konda Valley, payments varied and consisted of from only 6 to 10 major wealth items. (i.e. pigs, axes, ceremonial stones, etc.) Once again, as in trading partnerships, smaller wealth items were included to add to the value of the larger wealth items which were below the accepted standard.

Marriage payments were another major occasion for the transfer of wealth and consisted of three or four separate transactions. The first of these was the uwak or bride’s father’s payment. This was a payment from the bride’s father and his clan to the bride’s mother and her clan. The size of such a payment would differ from area to area and even from marriage to marriage, but for the sake of illustration let me give some figures which Denise O’Brien compiled in her study of Konda Valley marriage payments. For the bride’s father’s payment she records the following mean totals:

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigs</td>
<td>8.1</td>
</tr>
<tr>
<td>Stones</td>
<td>2.3</td>
</tr>
<tr>
<td>Nets</td>
<td>12.3</td>
</tr>
<tr>
<td>Shell Bands</td>
<td>18.9</td>
</tr>
<tr>
<td>Braid</td>
<td>7.0</td>
</tr>
<tr>
<td>Other items</td>
<td>2.1</td>
</tr>
</tbody>
</table>

The second payment was the yindi or kwe awu which was the betrothal payment. The size of this payment as recorded by O’Brien was as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigs</td>
<td>3.6</td>
</tr>
<tr>
<td>Stones</td>
<td>3.8</td>
</tr>
<tr>
<td>Shell Bands</td>
<td>8.9</td>
</tr>
<tr>
<td>Other items</td>
<td>2.4</td>
</tr>
</tbody>
</table>

(O’Brien 1969:415)

The third payment was the kwe onggo or groom’s payment for which payments were as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigs</td>
<td>6.7</td>
</tr>
<tr>
<td>Stones</td>
<td>1.4</td>
</tr>
<tr>
<td>Shell bands</td>
<td>16.0</td>
</tr>
<tr>
<td>Other items</td>
<td>3.0</td>
</tr>
</tbody>
</table>

(O’Brien 1969:432)

In the final analysis then a typical marriage payment could consist of a total flow of wealth as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigs</td>
<td>18.4</td>
</tr>
<tr>
<td>Stones</td>
<td>7.5</td>
</tr>
<tr>
<td>Nets</td>
<td>12.3</td>
</tr>
<tr>
<td>Shell bands</td>
<td>43.8</td>
</tr>
<tr>
<td>Braid</td>
<td>7.0</td>
</tr>
<tr>
<td>Other items</td>
<td>7.5</td>
</tr>
</tbody>
</table>

A final prestation was that of the death payments. These payments were made by the deceased’s paternal kin to the deceased’s uncles on his mother’s side, and consisted primarily of cowrie shell bands, net bags, and a few pigs. The purpose of these payments was primarily that of settling old enmities or grievances which may have existed in the life time of the deceased.

(Heider 1970:151)

By way of drawing all of the above together, it is obvious that the focus of the prestations was that of compensating a partilinage for the loss of one of its members. Presumably that loss...
was not directed toward the person as an individual (as is evidenced by the fact that a marriage really did not remove the woman from continued contact or social ties with her family), but rather toward their loss of potential productivity. Compensation was not the only function of these payments though, for a number of other cultural needs were served by them. The indemnification payments ensured that a call for warrior assistance from within the alliance would be heard. In agreeing to help a neighbor there was assurance that any losses would be compensated, and a reciprocal call for assistance would be received. Marriage payments also had a wide range of cultural implications as Denise O'Brien notes:

"Marriage payments are...like all economic transactions, a means for a man to both demonstrate and acquire prestige...and help (to) integrate the basic political community, the confederacy, and influence the composition of the temporary wartime inter-confederacy alliances..." (O'Brien 1969:518,524)

There was then an underlying ethic that gave direction and purpose to the flow of wealth in traditional Dani culture. Wealth transactions were a means for promoting equity within the society, stability and peace within the alliance, and balance and reciprocity between the patrilineages. The mark of a big man was his ability to manipulate wealth to the total benefit of his circle of acquaintances, and the society in general. His personal reward, apart from the benefits to the society at large, was the prestige, praise, and loyalty which were accorded to him. As Sahlin has noted, "generosity creates leadership by creating followership." (1968:88) The major contribution of a big man was his ability to manipulate wealth to the total benefit of his circle of acquaintances and the society in general. As such, Dani traditional culture was not greatly unlike that of other Melanesian societies. (see also Cochrane 1970:6)

The Flow of Wealth in a Changing Society

With the arrival of the missionaries during the years 1954-1960 there was an immediate change in the economic pattern of life and in the flow of wealth. When they arrived at a given location the missionaries negotiated for the purchase of a tract of land on which to build their homes and to construct an airstrip. The fact that they were willing to pay for land was a totally new concept for the Dani whose only other experience with land alienation had been that of driving a conquered enemy out of an area and then claiming it for themselves. Nevertheless, they were willing to accept payment for the land, undoubtedly more as a compensation for taking the land out of productivity, than of actually selling it.

Then the missionaries sought to hire labor which was still another innovation for the Dani, inasmuch as in their traditional culture labor was not something someone hired and paid for. Work parties were always reciprocal affairs, but now outsiders had arrived and they needed massive work parties and were willing to pay for a day's labor. While it was a new concept, it was one
which was easily understood and accepted by the Dani who responded in large numbers.

Payment for labor or for goods in those first days was done by giving out cowrie shells or spoonfuls of salt, whichever the Dani preferred. In a very short while, and especially during the airstrip construction phase, literally thousands of cowrie shells were distributed resulting in a marked devaluation of their worth and ultimately to their total abandonment as a source of wealth in any future transactions. Dubbledam claims that among the Kapauku this devaluation of the cowrie shell was accompanied by a number of other factors that worked together to undermine the leadership of the traditional big men and led to an anti-white, anti-missionary uprising that required government intervention.1 (Dubbledam 1964:293f) No such reaction occurred among the Dani though, possibly because of the Dani willingness to more readily abandon their traditional system of prestations.

For the Dani, the availability of salt through the missionaries was, for a while, a source of great excitement and a favorite form of compensation for labor, especially following the devaluation of the cowrie shell. After a while, though, even this was to be found in plentiful supply, and so the missionaries began to distribute work chits which could be saved up and redeemed at a later date from the mission storehouse, when the people had collected enough to be able to afford the purchase of an axe, a bushknife, or some other more expensive item. The work chit system was used for a number of years and established a strong base of understanding for the introduction of money, which began to come into widespread use in the 1970's.

The arrival of the missionaries, and shortly thereafter the government, brought with it the prospects for a whole new system and manner in which wealth could be procured. Anyone, men, women, or children, could contract to sell their labor or their goods for cash. Since the newcomers had no gardens, it was not long before market days were established and a marketplace sprang up in close proximity to virtually every airstrip. In the past, surplus foods had been shared willingly with one’s neighbors, but with the introduction of a marketplace, such surpluses were now sold for cash, and while at the outset only outsiders purchased their food in the marketplace, the system soon spread to include anyone who needed more food than they had been able to grow themselves.

As the new wealth flowed into the hands of the Danis, there was also an accompanying rise in the opportunities for it to flow right back out again. The material possessions of the outsiders were objects which were highly desired by the Dani. Steel axes, bush knives, shovels, and steel digging bars were much more efficient tools than their old wood and stone implements. Colorful glass beads, combs, mirrors, and razors made beautification a much simpler task. Clothes, pots, matches, lamps, and kitchen utensils all made life so much more enjoyable. Furthermore, possession of such luxuries brought with it a certain amount of prestige and pride. In very short order, these manufactured goods from the outside world became not only a new valuable commodity but a necessary aspect of their lives. As Sahlin has pointed out, though, "to participate in a market economy is an inevitable tragedy: what began in inadequacy will end in deprivation." (1968:77) The reason this is
so lies in the fact that the market always has more to offer the buyer than he can possibly afford and as a result "the consumer stands condemned to scarcity, and so to the life sentence at hard labor." (Ibid)

This new value orientation of the Dani and this new direction in respect to the flow of wealth has led to a number of important modifications in Dani life. The old trade routes and trading partnerships had been organized around the movement of salt blocks, stone axes, pigs, and cowrie shells or bailer shells. In the new economy cowrie shells were worthless, glass beads preferred to the bailer shells, stone axes were totally rejected except as tourist items, and store salt was more satisfactory than the salt ash blocks. In spite of this bleak outlook though, the trade routes have continued to survive, and with them many of the social obligations and ties that accompanied such transactions. Part of the reason for the survival of the trade routes has been due to the cash-short nature of the Dani economy, which means that bartering is still a very important element in wealth transfers. Store salt requires cash, but salt ash blocks can be secured by working for a month for a friend or neighbor, and one of these can be traded for a small pig. Stone axes are now valueless, but areas which once traded in axe stones now grow peanuts and soy beans, and these are sufficiently valuable exchange items for pigs and pandanus nuts.

Another major area of modification in wealth exchanges are the dramatic changes which have taken place in the system of prestations. Some have grown larger, while others have diminished in importance. Formerly, birth ceremonies were only a minor event in the life cycle of an individual, but in recent days increasing number of Dani families are celebrating a child's first birthday by throwing a feast to which all of the child's immediate relatives are invited and expected to make some kind of contribution. Restitution payments continue to be extracted, but over the years have grown in size, as village leaders have resorted to economic leverage rather than physical violence to control misbehavior among villagers. It is not at all uncommon today to find injured parties suing offenders up to 20 pigs for instances of adultery. Marriage payments on the other hand, have dropped significantly, varying in size from area to area, but ranging from five pigs (as in the North Baliem) to no payment at all (as in the Ilu area). Indemnification payments continue to be required, but with the cessation of hostilities, these payments are much less common. Death payments which were never large anyway continue on as a part of the funeral hospitality requirements of the family of the deceased, and as a tidying up of the affairs of the deceased.

In the modified continuation of the prestations, a very subtle shift appears to be taking place. In pre-contact days marriage payments and indemnification payments were an integral part of the system for holding the alliance together. With the establishment of peace, and given the presence of police and military to maintain this peace, these forms of payments were able to recede into less significant roles. In today's post-contact society the maluk onggg or restitution payment, as we have noted earlier, has risen in prominence. At first the increasing amounts which were being demanded seemed to be the result of a genuine desire to make the pain of the
payment a motivation for good behavior, but this soon degenerated into a conscious form of vengeance, and more lately seems to be an outright attempt to wring as much wealth out of an offender as can possibly be obtained.

As the old forms of prestations have been undergoing modifications and changes, new forms of prestations have been developing. One such example occurred when, as a matter of pride and self identity, various Dani parishes set about to construct aluminum roofed churches with sawn timber construction. Such buildings cost, not including the volunteer labor put into them, anywhere from US$500 and up to some two or three times that amount. In order to raise these funds the Dani relied on contributions from other parishes, which, in order to promote regional goodwill and amity, contributed rather heavily to these costs. With the completion of the construction, prior to occupancy of the building, the parish leaders would then hold an extensive repayment ceremony in which pigs, cash, and other valuables would be collected and then paid out to all those who had a part in the financing and construction of the building. With virtually every parish undertaking this same kind of project over a period of several years, it soon became evident that a new form of inter-parish prestation was being negotiated.

Festive occasions have also become another means whereby large amounts of wealth flow through the community. Outstanding examples of such festive occasions would be the annual Christmas feast, Indonesian Independance Day (August 17), special church conferences, or harvest festivals. On such occasions debts are paid up, produce is shared with other areas, and clan ties and group solidarity are reaffirmed.

Such events are almost always marked by ostentatious display on both the part of the giver and the receiver, and inasmuch as the occasion is almost always a feast, they are likewise characterized by conspicuous consumption. (Food is piled in high mounds, and slaughtered pigs are laid out in rows for display.)

One final note, then, in respect to the current flow of wealth in Dani society. In 1980, in order to discover how much actual cash flowed through the hands of the average Dani family and how they spent that money, I conducted a survey of cash transactions in several villages over a period of several months. I discovered that gifts to family members and to their churches (as part of their offerings) consumed more than one half of their available cash income. While much of what is currently happening in Dani culture is unknown to us, it appears quite certain that gifts and prestations still account for the major transfers of wealth within the culture.

**Implications for the Future**

The rapidly changing nature of Dani culture as a result of their contact with the outside world is requiring not just a shift in traditional practices or in social organization, but the establishment of a whole new set of values and fresh perspectives toward what they are doing. New moral and ethical standards are having to be set and new social patterns instituted. Old values are having to be recast in the light of new developments and fresh innovations are being tried and modified in order to gain acceptability. In this final section of
this paper I'd like to focus on several distinct social and attitudinal shifts with which the Dani are having to wrestle in order to incorporate these many changes into their lives.

In making the transition to a market oriented economy one of the significant changes that confronts the Dani is the need to change their thinking toward sustained productivity. In their traditional mode of living, a Dani family functioned as the primary economic unit of the society. Production was a domestic function designed to meet the needs of the family. Sahlinson describes this approach to productivity as follows:

...it is 'what they need' that governs output, not how much profit they can make. The interest in exchange remains a consumer interest not a capitalist one. Perhaps the best phrase (to describe this mode of production) is 'production for provisioning!' (Sahlins 1968:75)

Inasmuch as the domestic mode of production is geared for the immediate needs of the family, Sahlins further argues that "when no household need is in sight, or none that could not be met by some future effort, the normal tendency is to leave off working." He then concludes that this approach to productivity results in an "economy (which) is not organized for sustained production even in normal times." (1968:77)

Among the Dani there is an echo of these attitudes in that they consider it foolish and futile to do more than is absolutely necessary in order to produce the minimum requirements necessary for meeting one's physical needs and social and ceremonial obligations. This tendency to invest minimum effort in an endeavor is also noted by Finney about coffee growers in Goroka.

Why should some Gorokans apparently neglect their coffee and thereby pass up potential increments to their cash incomes? The answer, I suggest, lies in the part-time character of their coffee growing. These men are not wholly dependent on the cash economy for meeting their needs; a man and his wife, or wives, can still easily grow most of the food they eat..(For them) coffee trees can be treated like money in the bank...with a minimum of maintenance...the trees bear fairly well, and he can make 'withdrawals' from his private bank to bring in at least fifty to a hundred dollars a harvest for minimal effort. (1973:147-8)

Such an approach to productivity by the Dani is not as inhuman as that which is required in more economically advanced areas, but it is also not sufficient for meeting the demands of a highly competitive market economy. Market schedules call for deadlines and quotas, consistency and quality, none of which are to be found with assurance in their approach to productivity. Either the Dani will make the transition and will increase productivity to meet the demands of a market economy, and in the process will give up much of the leisure they now enjoy, or they will resist this trend and will choose to live instead in poverty, on the fringes of Indonesian society.
A second significant change that confronts the Dani is their attitude toward work. In pre-contact days, and indeed, even in the present, the Dani have sought to turn work requirements into social events. Peters has noted that "A Dani does not like to work in the garden on his own; it is boring and he does not make much progress." (1975:57) The Dani solution to this problem was to invite friends to share in the labor and so together a work party would sing, dance, playfully tease one another, flirt with prospective mates, and climax the day's activities with a feast. (Scoville 1975:9) With this kind of attitude toward work, the social event was almost as important as the completion of the task.

In a market economy, though, labor is viewed in terms of a market value which seeks to obtain the greatest productivity in exchange for an appropriate salary. The focus of such an agreement is upon efficiency and output, not the social enjoyment of the worker. Under these terms, a worker is trained for a task and assigned specific hours in which to perform them. His performance and value as an employee are judged by these standards. All of these requirements, of course, are in sharp contrast to a non-industrial cycle of work which Sahlins describes as "intermittent, sporadic, discontinuous, ceasing for the moment when not required for the moment." (1968:79) It is little wonder then that the typical Dani worker balks at the prospects of spending 8 hours a day, 40 hours a week, 50 weeks a year performing the same boring tasks which have been assigned to him.

A further factor that compounds the standard employee-employer contracts is the perception the Dani himself has toward his employment. When a Dani attaches himself to an employer, a major factor in his decision is not so much in the salary that will be received (although this is not ignored), but rather in the opportunity to learn from and to share in the prestige and privileges which might be gained through this association. A Dani laborer therefore does not perceive of himself in the usual employer-employee relationship. His model is more that of a member of the family and he views himself as working with not for his employer. As a member of the family, and as a partner in a joint enterprise, a Dani worker is not above taking a lot of undeclared privileges to himself without any sense of having transgressed the bounds of propriety or sense of wrong doing.

Perhaps there is in all of this a need to develop a new "work ethic" which assigns a moral value to a task performed, or even to work itself, rather than to the social consequences of the undertaking.

A third major change confronting the Dani as they move into a market economy is their attitude toward wealth. In traditional Dani culture items of wealth were shared around and were never hoarded by any one individual. No morally responsible person ever kept more than was absolutely needed for personal use. He always shared what he didn't need with other members of his village or clan. In a market economy though, the goal of productivity is to create a surplus over and above needs, which can then be sold in the market. A market economy therefore takes out of circulation surpluses which would have normally been used for distribution as acts of generosity toward other villagers who might have needs (i.e. widows, the elderly, infirm
persons, etc.). Furthermore, whereas food could not be hoarded, cash can be, provided no one knows about it.

In a similar vein, in the operation of a small store a manager must maintain an inventory of stock to be sold. For a Dani entrepreneur, it is still almost impossible to maintain such an inventory for very long due to the demands and social obligation which relatives bring to bear on one of their clansmen who may attempt to set himself up in business in the marketplace.

The concept of doing business for a profit is also a difficult matter for the Dani to accept. In their traditional culture the Dani were accomplished traders and businessmen, but under the old trade relationships and barter exchanges, commodities had fixed values, and because the negotiations were between friends and allies, there was no thought of wanting to overprice or underpay. There was a mutual obligation to reciprocate value given for value received. Profit making and price gouging were only done with outsiders and strangers, not friends and allies.

In the marketplace, though, a whole new form of transaction takes place. A buyer and a seller enter into only a momentary relationship, and the focus is only on the transfer of goods, which from the buyer's perspective he hopes to obtain at the lowest possible price, and which the seller hopes to unload for the highest possible profit. The transaction is impersonal and profit oriented, but it is not without its ethics.

The Dani, though, have yet to develop an ethic and a practical expertise toward the whole concept of profit setting and profit making. With no tradition for setting profit mark-ups, and with an undeveloped business ethic, they frequently ask exorbitant prices for the goods they wish to market and fail to understand the outrage that buyers express at such prices. Yet they do see that others make a profit off of them and feel exploited by the process.

The result has been a rising distrust toward all financial transactions and a flat refusal to work with any other Dani who might make a profit off of them. As such, laborers do not want to work for a contractor except on a profit sharing basis, nor do they want to purchase from a fellow Dani's store unless his prices are significantly lower than his competitors.

In summary the Dani attitude toward wealth is such that they inhibit the meaningful progress of their own people toward substantial participation in a market economy, and they have developed a deep distrust toward a market economy because they are unable to understand or to control market prices. This situation is not beyond all hope though. It is most definitely a developmental stage through which an economy in transition must pass. The Dani are going to have to continue to struggle with their own attempts to participate in the marketplace, and out of it will ultimately come the experience, the values, and the expertise that is necessary for success. Once again the Gorokans have pioneered a similar path as Finney records. The Gorokans "have taken crops, technology and commercial structures developed elsewhere and adapted them to their own society." (1973:83) In this process there are bound to be failures. Cash crops will underproduce, livestock will starve to death and businesses will fail because the owners were unable to persuade relatives that their stock and/or profit could not be used for prestations to meet social obligations but were required for
the on-going of the business. Yet out of it all
there will be those few successes, as an
optimistic Finney once more records:

The Gorokans' only hope of learning
business skills has been to risk
their money and other resources in
starting their own businesses and
then to try to learn through
experience. While this may seem
foolhardy and expensive, it has been
the only way open to ambitious
Gorokans. The Tolai of New Britain
followed a similar course, and now,
after a period of apprenticeship not
unlike that which the Gorokans are
going through, they seem to have
acquired enough business know-how to
begin to operate their enterprises
with a fair degree of efficiency and
profitability. The Gorokans may be
on the verge of a new period in
which, as for the Tolai, the costly
acquisition of commercial skills is
going to pay. (1973:157)

A final point of consideration then in
respect to the changes which confront the Dani in
their economic activities is the need to direct
the flow of wealth from a market economy to the
well-being of the entire community. Under their
traditional system of exchanging wealth,
political alliances were strengthened, social
control was maintained, personal prestige
enhanced, and equity and balance sustained. With
modification, as we have already noted, these
continue to be strong motivational factors in the
accumulation of wealth. In their efforts to
direct this wealth individual families have
placed obligations on their individual members.
So, if a young man goes to the coast, town, or
other sources of employment, he is immediately
placed under social obligation to share his
wealth with other family members. It is not
uncommon for a young man to return to his village
after a year's employment at the coast with a
suitcase or two full of clothes and some store
goods, which represent his total savings, and
within just a few days of his return discover
that he is virtually penniless again as his
relatives have taken their share of his wealth.
Any attempts to thwart this system of sharing
have been resisted and in some cases have
resulted in social sanctions.

On the regional or parish level, richer
areas, or areas with more immediate access to
wealth, are expected to share with further out
and more economically deprived areas. Greater
generosity is expected and demanded from those
who have the greater privileges. Failure to meet
these expectations can and has led to
inter-district brawls, withdrawal of support, or
possibly even economic retaliation. This concept
of equity and balance is a very powerful factor
in Dani culture and virtually no economic
transaction of any major size can be made without
taking it into consideration.

All of this stress on equity and balance of
course did not mean that no one was ever allowed
to accrue more wealth than his peers. Big men
are big men because they have been able to amass
and to manipulate more wealth than other men, but
a big man is allowed to maintain his wealth so
long as he uses it judiciously to promote equity
and amity in the community. In return he
procuris for himself prestige and an even greater
opportunity for access to wealth. This role of the big men in their society continues in the new market economy. Finney's study entitled Big Men and Business analyzed these developments in Goroka and his observations very much parallel what is happening among the Dani. In his study on Goroka he concludes that their motivation in pursuing business ventures included a desire for prestige and service to the community (1973:80) which, I have noted earlier, is a trait already evident among the Dani. Out of all of this then we note that the contemporary situation confronting would-be Dani businessmen and traders is that of adapting successful business practices to the demands of their traditional values.

What then does the future hold for the Dani? At this stage it is impossible to tell for the signs are mixed. An attitude of resistance could develop, or a revitalization movement which seeks to return to the old ways could arise and result in a situation which condemns the Dani to remain among the terminally poor. On the other hand they could just as well, through help, guidance, and persistence come through this transition stage into a meaningful participation in the wider market economy of the nation.

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End notes
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the case of a coastal Irianese school teacher who was taking sexual liberties with a number of his female students. If my friend's interpretation is correct, the "Obano Uprising" was not an attempt by Ikari leaders to restore their deteriorating authority, it was instead a totally normal response, which was carried out in a traditional manner, and which was aimed at punishing, indeed, eliminating altogether, those who were violating their cultural ideals. Unfortunately, their reprisals extended to all outsiders including innocent and well-meaning individuals and in the end required forceful intervention by the government.

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BIBLIOGRAPHY


TIME AND SOCIETY IN DANI CULTURE

Douglas Hayward

IKHTISAR

Salah satu pandangan yang salah dan paling sering terdapat dalam pikiran orang-orang yang berasal dari masyarakat industri adalah semua manusia dan kebudayaan memiliki cara berpikir yang hampir sama atau identik mengenai waktu. Makalah ini merupakan uraian tentang pandangan suku Dani mengenai konsep waktu. Kalau masyarakat Yahudi lebih mementingkan masa lalu, sedangkan orang Amerika lebih banyak melihat harapan-harapan di masa depan, maka orientasi dan penekanan suku Dani tentang waktu itu lebih ditujukan ke masa sekarang.

Dalam kehidupan keagamaan mereka, orang-orang Dani percaya bahwa roh orang yang baru meninggal itu sangat berbahaya jika dibandingkan dengan roh mereka yang sudah lama meninggal. Oleh sebab itu roh mereka ini perlu didamaikan melalui kegiatan-kegiatan seperti tangisan yang keras, penyembelihan sejumlah babi dan pembaruan kematian. Di sini dilihat pentingnya orientasi ke masa sekarang dalam arti bahwa orang yang baru meninggal itu lebih diperhatikan dari pada mereka yang sudah lama mengingal yang seringkali telah dilupakan.

Untuk memudahkan perencanaan, komunikasi dan pengertian tentang sifat-sifat suatu suku bangsa maka kita perlu mengerti (1) pandangan mereka tentang waktu, (2) cara-cara mereka mengukur waktu dan (3) tingkah laku sosial mereka sebagai cermin pandangan mereka tentang waktu. Ketiga hal inilah yang akan dibahas dalam makalah ini.

One of the most common misconceptions of people from industrial societies is that of presuming that all peoples and cultures have similar or identical concepts of time. The result of such presumptions has provoked untold frustrations and prompted one writer on the subject to speak of the "difficulty" and "disasters" experienced by Europeans as they have sought to plan their activities around their own time reference in which non-industrial peoples were expected to participate. (Evans-Pritchard 1939:189) I have experienced such difficulties myself, and on one occasion discovered that a proposed trip would take two days longer than planned, because of a failure to reckon time from a Dani time perspective rather than from my own.

In order to facilitate planning, communication and understanding of the ethos of a people one needs to understand (1) their perception of time, (2) the mechanics of how they measure time, and (3) the manner in which social behavior reflects this conception of time. It will be the purpose of this paper therefore to examine all three of these matters, as they pertain to the Western Dani (or Lani as they prefer to be known) of Irian Jaya, Indonesia.

Perceptions of Time by the Dani

A linear perception of time is that which is most commonly assumed by Westerners who see time as stretching back into the past and similarly on into the future. Such linear thinking, though,
has been challenged by both Eastern and Western thinkers, and as Cairns's book Philosophies of History demonstrates there are strong suggestions and arguments for the cyclical nature of time. Cyclical versus linear perceptions of time are not the only perceptions which have been recorded by ethnographers, especially those who have worked in traditional societies where it is common to think of time as being event-oriented. Take for example the Nuer of Africa who measure the passage of time in a year according to the seasons, but when they need to reckon time beyond the year they reckon in terms of events and structural relationships (Evans-Pritchard 1939:209). This focus on events as a means of measuring time features predominantly in a number of tribal peoples (c.f. Mead 1956; Leenhardt 1979; Gurevich 1976), but even this approach to time cannot be understood to be simply a traditional society's quaint way of reckoning time. Some traditional societies establish time by the event and the Kaluli (of the Southern Highlands of Papua New Guinea) speak of the season of the dona, because the dona trees have come to fruit. For them the dona caused the season, and they do not perceive a linkage between the time of planting, the intervening weather and the time of harvesting. (Schieffelin 1976:141-42). Likewise the Umeda of the Upper Sepik River area conceptualize time as the ripening of fruit, which can vary considerably. For them a day can be longer or shorter and a season vary by the amount of time which is necessary to bring a harvest into ripeness (Gell 1975:16-164).

With all of the preceding as an introduction to our discussion of the Dani perception of time it will be evident that their views, while not exotic, are different than the normal linear perception of some industrial societies. The outstanding feature of Dani time reckoning is that it is pragmatic and utilitarian, with a concern for time and events which concern the present or which are taking place now. The focus and orientation of their time reckoning is on the present, the now of their existence, with time both past and future being important and reckoned primarily in terms of its effect on the present. They do not have a forward looking hope for the future as might be characterized by American society.

This pragmatic concern for the present is evident in the total orientation of the Dani toward life. They are not a philosophical people who invest a great deal of time and energy in unnecessary ceremonial activity or philosophical inquiries. Their concern in religion is for what works (Hayward 1980:71) and in ceremony for what is required. (Heider 1972:195). Their worldview in this respect is very similar to that of the Ekagi (or Kapauku) about whom we read: They (the Ekagi) are empiricists who are not inclined to speculate and philosophize. The topics that interest them do not concern the supernatural or metaphysics; indeed they usually talk about such unphilosophical subjects as contemporary power relations, concrete monetary transactions, love affairs, or news concerning pig feasts and dancing. (Pospisil 1963:83)

Another ethnologist, in noting the pragmatic and materialist orientation of another Melanesian people, writes:
(The) Sambia are not a people who look much to their past, though their custom is tied to it. Men have scant interest in long-dead ancestors or bygone ages. The constant challenges of their homeland are a prime cause, for they tax one's vitality and give but meager rewards. Survival in warfare demanded raw courage; scaling tall trees and chopping them down calls for enduring stamina and strength; and a successful hunt requires fearless, cunning technique. In these ways men must strive for mastery in their land -- and it is this task that fosters a materialism now foreign to most Westerners. Sambia live in the present, then, because they must do so to eke out a living. This disposition is itself a profound source of their ability to tolerate the malevolent forces of war and sickness and hostile spirits. (Herdt 1981:73)

The Dani, it seems, are not alone in their pragmatism and lack of historical concerns.

In addition to this behavioral evidence of their conception of time, the Dani language is structured so as to reflect an orientation to the present. This is probably most clearly seen in the structure of Dani verb conjugations which among other things requires a time orientation indicating when an action took place. There are seven such categories which include:

<table>
<thead>
<tr>
<th>Indefinite</th>
<th>Delayed</th>
<th>Immediate</th>
<th>Present</th>
<th>Immediate</th>
<th>Delayed</th>
<th>Indefinite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past</td>
<td>Past</td>
<td>Past</td>
<td>Future</td>
<td>Future</td>
<td>Future</td>
<td>Past</td>
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</table>

In examining the functions of these tenses it becomes more evident that all activity into the future, and back into the past are structured in respect to the present. In usage, the present tense functions exactly as such, it is action that is taking place now, it has not ceased, and it is still happening. Immediate past action has just ceased, and only rarely would this form extend more than a few hours into the past. Delayed future tense activities are all those which will start in a little while or possibly some time in the very near future. The indefinite future, is again very vague and is used for future events that can occur almost any time. This form of usage can be a polite command, or it can refer to some vague future happening whenever. Note then the contrast between these tenses. The closer the event is to the present, the more time specific it is, but the further away from the "now", the more vague it becomes and less time specific.

Consider also the manner in which the Dani relate to the seasons. The Dani are totally unaware that the stars move in any form of cycle, and indeed were surprised to hear that they did move. They were of course aware of the daily cycle of the sun and moon, and they made note of the monthly cycle of the moon’s brightness inasmuch as the light of a full moon was good hunting time, or possibly an opportunity to schedule a community work party. The sun, they believed, arose in the morning, crossed the sky, and then returned to its place of rising by travelling through a passageway in the underground. The sun and the moon were personified and were conceptualized as being
husband and wife. (The sun was female, the moon male.)

Seasonal variations in the amount of sunlight is only very minimal at this latitude so close to the equator, there is nevertheless as much as an hour’s difference in sunlight between seasons. In the rather fragile ecology of the highlands even this much variation in sunlight has an important effect upon the Dani gardens. The Dani therefore take note of these variations and they plan their gardening cycle around them. In conceptualizing the reason for these changes the Dani have noted that such seasonal cycles also correspond to a slightly different point of rising on the horizon by the sun, and have reasoned that the later rising of the sun is due to the fact that its movement has positioned it behind the hip of some unseen mountain causing it to rise slightly later than at other times when it rises over the lower valley.

One final example then of the very utilitarian attitude of the Dani toward marking time comes from their post-contact experience with the outside world. When the Dani were introduced to the concept of a seven day week and the necessity of having to relate to outsiders in respect to these days, they set about naming the days of the week after the dominant activities that characterized those days. Hence the following terms became the days of the week.

<table>
<thead>
<tr>
<th>Day</th>
<th>Dani Term</th>
<th>English Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>mbi mbingga kunwii</td>
<td>the day we sell vegetables or market day.</td>
</tr>
<tr>
<td>Tuesday</td>
<td>tekola aa’nduk eekwi</td>
<td>the first day of (literacy) school</td>
</tr>
<tr>
<td>Wednesday</td>
<td>tekola oolo eekwi</td>
<td>the middle day of school</td>
</tr>
<tr>
<td>Thursday</td>
<td>tekola kweebi eekwi</td>
<td>the final day of school</td>
</tr>
<tr>
<td>Friday</td>
<td>wono yogwe</td>
<td>the day we share our knowledge (back home)</td>
</tr>
<tr>
<td>Saturday</td>
<td>mbi-umbingga eekwi</td>
<td>garden day (when they harvest enough food)</td>
</tr>
<tr>
<td>Sunday</td>
<td>tamban eekwi</td>
<td>the day to last through Sunday, the day of rest, the day we pray.</td>
</tr>
</tbody>
</table>

I conclude this first section then by noting again that the present dominates the past and the future. Time is important primarily in how it affects the present. This applies to their speech patterns, their perception of the motions of the sun and the moon, and it applies to human activity.

**The Measurement of Time by the Dani**

Keeping in mind all that has been said earlier we turn now to the diverse ways in which the Dani marked the various time periods which affected their lives. The term o in Dani could
either to time or place. When it refers to a place it is so designated by being paired with a pronoun or a noun. The result produces words such as: ome, 'a house'; yi o ndi o, 'every house' (literally this house, that house); o mula, 'a designation for the Muli area'; o ok, 'a building'; and many additional words as well. When the term o is combined with certain adjectives, though, it refers to time periods and the result produces the following words: o apit o conikiya, 'darkness' or 'night time'; o eya, 'the time of light' or 'daylight'; o kibi, 'a dry time'; o wiya, 'a windy time'; o mayu, 'a rainy time'. These last designations would probably come through in English more as 'spells' rather than seasons, since they could be used to designate shorter or longer spells varying from a few days to a few weeks.

A second important word for designating time in Dani is the term eyom. This can be variously translated, depending on its context, as time, period or age. Its various usages include:

- eyom lek aba - 'time has run out'
- eyom muk panggoni wage - 'time is getting short'
- ti eyom or ndi eyom - 'this time or that time (referring to a specific period)'
- rin eyom-naneyom - 'all time or always'
- ndi-pandi eyom - 'a time of sickness'

These large blocks of time and these semi-specific references to time could be more specifically designated or broken up by a number of other time oriented terms. Night time, as we have noted, was set off from daylight, but the passage of time during the nights and the days was also marked. During the night, the passage of time was indicated by the activities which took place at night. The early evening hours of say around 8:00 P.M. is designated as nogo aawo yi nage vigak 'the time before we have fallen asleep'. Then during the course of the night it would be necessary to rebuild the fires in order to keep warm. By indicating which time of fire re-stocking was relevant one could indicate the midnight hour or the early hours of the morning. This is referred to in Dani as kani malenggwipaga 'when we examine the fire and...'

In designating the daylight hours, there are three major parts of the day: Kuuben means 'morning', liingge means 'midday' and klyoma is used for late afternoon. Once again, though, more specific designations in the day can be made by referring to activities that characterize that portion of the daytime. This can be done by indicating where the sun would be in the sky at that specific time. A speaker can also refer to the sounds of nature that characterize a time, especially in the early morning or early evening (i.e. the sounds of insects, roosters, frogs or birds). It is also possible to refer to the late afternoon hours as kogi kumake kagak 'the hours when the spirits gather'.

In traditional Dani time reckoning, and before the introduction of the seven day week, the marking of the passing of time by days was possible, but once again the Dani focus in respect to time becomes very evident. There are six terms that mark days forward and backwards from the present. They are as follows:
It was also possible to mark the length of time that would be required for a journey by counting the number of nights that would be spent on the trail. In this manner a trip of three nights would be 3 1/2 to 4 days journey.

The Dani had not yet discovered that there were approximately 30 days per month, but they were aware that the moon went through regular cycles which they noted with the term, tut penenge. Longer periods of time could therefore be determined in respect to the number of moon cycles that would transpire in the interval. Frequently, though, calculations of more than 3 or 4 months could not be considered as accurate.

Time references for longer periods of time could only be marked in respect to significant events in the lives of the Danis. References into the future could be made in respect to the next harvest season, the maturity of a pig, or by the age and development of one's children. References about the past would also call upon such markers, e.g. at the time a son started to wear a gourd, by reference to a major fight, or the arrival of some memorable event. Indeed I have frequently determined an event by asking how it related to the time of the overflights of aircraft during World War II (1945) which many of the older Dani still remember.

In referring to mythological time, the Dani again demonstrate a consistency in their perspective toward time. From a Dani perspective, historical time begins to trail off dramatically for all events which took place before the time of one's grandfather. Mythological time therefore begins to take over for all events approaching 100 years or so ago. In referring to this time period the Dani can use the phrase o maan togor 'a long time ago' and can refer to any event which took place anywhere from a few months earlier to back into the indefinite past. They could also use the phrase o iyaalok togor 'in the very beginning'. This particular phrase is used whenever there is a reference to the time in the creation myths when the first Dani appeared from a hole in the ground and when all of life was first brought into existence. Another common term used in Dani legend language was the phrase ne ambi paga 'on one occasion' or more idiomatically, 'once upon a time'. This is the kind of phrase that would be used to introduce or start a mythological story about how a clan name came into being, or how some clever children outwitted Mbanunggok, who was the Dani equivalent of our 'bogeyman'. Such tales, while placed in an indeterminant time slot would be continuously updated and localized by saying the children in the story were the size of so and so here in the room and by locating the events as taking place in a known geographical location. In this manner, Dani legends were contemporized and made relevant to those currently present.

One of the outstanding legends that had relevance to contemporary activities was the legend of the snake and the bird. In this legend, the snake alone of all the creatures knew the secret of immortality, presumably due to its ability to shed its skin and thereby to be rejuvenated. On the occasion of a death among mankind, the mourners sought the advice of the creatures as to how to handle their distress.
Rather than taking the advice of the snake, they listened to the advice of the bird, who advised them to decorate themselves like a bird. This advice they accepted and proceeded to decorate themselves with white body markings and the plummage of birds. Their efforts, though, were in vain and the dead did not return to life, and the secret of immortality was lost to the race of men. The Dani term therefore for immortality is nabelan-kabelan, or literally "my skin-your skin", which was the secret of the snake. Dani funerary practices continue to reflect this myth, as participants in a funeral would decorate themselves with mud and slain warriors would be designated as "dead birds". This term nabelan-kabelan, although it referred to immortality did not focus on unending time, but rather to a whole quality of life in which there were no deaths, no mourning, no separation from loved ones. In wistful moments or times of grief, when the Dani allowed themselves to think about and to long for that which was lost, it was not with a focus upon the attainment of an unending life in which time was a factor, but rather for a re-unification with their dead ancestors and for a return to a life as it had been in the past. (Since the arrival of Christian missionaries, this concept has undergone some modifications and has added a time factor inasmuch as the Christian teaching about heaven has stressed this fact.) For our present considerations, though, this legend is significant in that the focus of the tale is not on the time factor (i.e. the unendingness of time), but rather upon its effect upon men and now, inasmuch as they are continually confronted by the reality of death and separation and the loss of family members.

On the basis of all of the above, I would therefore venture to postulate that this ability of the Dani to conceptualize time meant that they had the capacity to understand it and perceive it, but failed to develop a more accurate system of marking time because they did not have any driving environmental or cultural needs to do so. A secondary cause for not marking time more accurately may very well have been due to the elemental system for counting that the Dani used, in which fingers and hands would be used. Fingers were used to indicate a sum up to ten, and then increments of 10 were used to count up larger numbers. Hence, the figure 50 would be five men's hands, and would require the presence of 5 men holding out their hands. It was a counting system that functioned for their needs, but did not lend itself to complex mathematical calculations. In the same way that their counting system was sufficient for their needs, so their system of reckoning time was sufficient for their needs. With the arrival of the outside world, though, there came a need to be more precise in their dating system, and because they did have a capacity to perceive time, the Dani found it quite easy to slip into the use of terms (generally loan words from the Indonesian language) to mark days, weeks, months, and years.

Dani Social Behavior as a Reflection of their Perception of Time

One of the more obvious features of Dani social structure is the lack of a time depth which can support a sense of history or lay emphasis on one's heritage. Most Dani men are
unable to name an ancestor beyond their great grandfather, and even in that generation probably do not know the name of their great grandmother. By asking some of the oldest men of the community for their genealogical history it would be possible to trace ancestry back approximately 100 years, but not much more. In the genealogical lists which I compiled from the Mulia and Kwiya areas, when asked to elaborate on the life and activities of these ancestors, it was not at all uncommon for an informant to indicate that it was his father, or maybe his grandfather, who was the first one to enter the present valley to settle it, and that an earlier generation than that (i.e., the great grandfather) had lived somewhere off to the east (toward the location recorded in myth as the origin of the Dani). If such genealogies were indeed correct it would mean that the Mulia and Kwiya areas had only been settled in the recent past (i.e., during the past two generations). This may or may not be true, but every valley in which the Dani live have the same genealogical tradition including the Ballem Valley itself, which is supposed to be the site of origin for the Dani (see esp. Heider 1970:70, Ploeg 1960:16, O'Brien 1970:207). It remains for the archaeologists to demonstrate when actual habitation began in the Dani areas, and who those inhabitants might have been, but evidence from archaeological sites in the highlands of Papua New Guinea go back several thousand years ago and it seems doubtful that the Dani in a single generation or two would have sprung forth in such large numbers as to allow them to populate so widespread an area as they now occupy.

It would seem much more likely to conclude, as Barnes does, that the notion of descent is absent or only held weakly by the New Guinea Highlands people and that patrilineality unites families not because of a common ancestor but because their fathers were or still are members (Barnes 1962:5-7, cf. Heider 1970:70, Ploeg 1969:16).

In those cultures where lineages are important, which go back for 10 to 20 generations, there is generally a corresponding need for this kind of information. Often it is required as a means of verifying land ownership, as among the Iban (cf. Jensen 1974), or of ascertaining ritual privilege and moral responsibilities as among the Huli (Glaeser 1968). For the Dani though, no such requirements were evident. Land was not a major problem and, indeed, families or even whole men's houses frequently moved to new locations in search of better garden sites. As a cause of war, land was only infrequently a factor and population pressures seem to have been minimal due to the availability of virgin territories on the periphery of the Dani territory. With this apparent access to new lands around them, validating one's ancient land use rights was not nearly so significant; therefore, knowing one's immediate ancestors and claiming land rights on that basis alone seemed sufficient.

The performance of ritual ceremonies and the keeping of ritual obligations did not require a long heritage either. While it was true that sacred objects were held by sib members, nevertheless, in sacred ceremonies it was the entire men's house that participated and the residents of a particular men's house often included attached non-relatives who participated along with the others, so that no other basis than that of common membership or residence was
necessary for participation in the sacred rites of the group. (Heider 1979:61, Hayward 1980:47)

All of the above only serve to emphasize again that the social structure of the Dani, in combination with their utilitarian pragmatism, neither required a long time perspective nor promoted the development of one.

A second significant feature of Dani social organization was the cycle of ceremonies and prestations which accounted for most of the transfer of wealth in traditional Dani culture. In brief, Dani ceremonial activities flowed through two distinct streams. The first of these had to do with life cycle ceremonies; namely birth, initiation, marriage and death. At each one of these junctures in the life of an individual a ceremony would be held involving the transfer of wealth which could range from very small payments, as at a birth ceremony, to very large payments, as in a marriage payment (ie. a few cowrie shells, up to a score of pigs and other wealth items). The second great ceremonial stream was that having to do with crises-time ceremonies which took place on the occasion of matters of sickness, war, planting, and harvest times.

Virtually every one of these ceremonial activities focus on the well-being of the community or the individual in the immediate present. Heider states that the primary focus of the great pig feast which climaxed and integrated both of the ceremonial stream in the Baliem was upon promoting the social solidarity and integration of the group (1972:196). Denise O’Brien concludes that marriage payments function to "integrate the basic political community, the confederacy, and influence the composition of the temporary wartime inter-confederacy alliances..." (2969:524).

Possibly more significant than this 'now' emphasis in the ceremonial cycles is the manner in which these cycles are inter-related and coordinated so that they became to some degree a balanced system of prestations and counter-prestations. O’Brien, in tracing the economic impact of marriage payments, notes in respect to their influence on the confederacy level, that "within the scope of any one generation, the total payments between the two halves of a confederacy are balanced." (1969:519). In respect to lineages she further notes:

In any one Konda-Dani marriage, a reciprocal wealth exchange between the lineages of the bride and groom is never absolutely guaranteed. Balanced reciprocity may occur on a deferred basis (a minimum of 30 years) if a man’s marriage results in both a daughter and the marriage of a daughter’s daughter, and it will occur on a more immediate basis (within five to 10 years) if the preference for confederacy endogamy has been followed. (1969:536)

In a similar vein Larson, in his study of war payments, notes that indemnification payments (ye wam) in the Ilaga Valley which can involve payments of up to 60 pigs per warrior were arranged to reflect this same kind of balance and reciprocity. The ideal that seemed to be sought in all these payments was balance in the short term, but if such were not attainable, and it
often was not, then it could be credited or collected by one's children. In this manner, the prestations and counter-prestations could affect up to three generations. A father could have inherited a debt obligation from his father and could pass on another to his son, but a continued failure to meet such obligations or to maintain a balance in these prestations would lead to war or to conflict. The only acceptable reason for delaying payments was to effect a harmonious social climate in the present (cf. Barth 1975:135).

One final area of Dani practices which reflects their concept of time is that which is found in their religious life, particularly in respect to the ghosts of the dead. The Dani attitude towards ghosts is probably best summed up by the following quotation from O'Brien.

At death the soul leaves the body and wanders around in the open grasslands and woods. It neither eats nor sleeps and occasionally may be seen at night. All such ghosts are feared and are believed capable of harming the living, principally by causing illness. Ghosts are placated by the activities at a funeral, particularly by the wailing of mourners, the killing of pigs, and the death payment. Ghosts are most feared immediately after death, but cause no trouble if given a proper funeral by their kin. The ghosts of men slain in battle or murdered are most dangerous. It is not enough to merely avenge such a man and give him a proper funeral; the ghost must be ceremoniously informed that his death has been avenged. He will then settle down peacefully in uninhabited bush and will not disturb the living, though such a ghost may be called for assistance before a battle or when a kinsman falls ill. (1969:88-89)

The ghosts of the recent dead were the most dangerous, required placation, and demanded vindication. With the passage of time, though, these same ghosts became less dangerous, and quite possibly could even become benevolent ancestral spirits, who, if honored, would assist the living and add prosperity to the village. With the passage of still more time their stones of remembrance might be replaced in the "spirit closet" of the men's house and their names forgotten. These long dead ancestors would then
have fallen victim to the same process which we have been observing throughout this paper, namely the terrible urgency of the present, in which the demands of the more recent dead took priority over those who were passing into the irrelevant past.

Conclusion

A final question which we still need to ask ourselves as we come to the conclusion of this article is, how does this information help us to understand the Dani, or to relate to them in their own cultural setting? In answer, I would turn to an observation first popularized by Ruth Benedict and applied more recently to Melanesian cultures by Louis Luzbetak, namely, that a culture is more than its functionally organized parts. Behind observable patterns of behavior there are underlying values and goals which permeate and dominate the various aspects of culture (cf. Luzbetak 1963:157). In applying this concept to the Dani, it would appear to me that the Dani lack of time depth perception either into the past or into the future shapes a number of unconscious values and goals which affect their behavior responses and their motivations for behavior. Let me cite three examples of how I believe this works out in practice.

A number of government departments, international relief agencies, and mission projects have been initiated among the Dani community with the specific intent of raising their standard of living by providing access to education, increased availability to medical care, improved livestock, etc. In virtually every one of these projects, the Dani have expressed contempt or withdrawn support whenever the goals of the project could not be shown to be effective or fully productive within the bounds of the next few years. Their lack of time depth and concern for the present has made them impatient and they do not want to wait for several years for a project to prove itself in an experimental stage. They would rather attempt a project on a massive scale and have it prove to be a failure, than to cautiously step out on a trial basis and thereby drag out the prospects of profiting from it. Likewise, school children quit going to school in utter disgust when they discovered that graduation from the 6th grade was not sufficient to prepare them to become doctors, government officials, and teachers on salary, which were the promises that had been made to them by educator who had extolled the benefits of an education. In respect to development and progress, the Dani are not devoted to building a better future for their children, they want results for themselves now.

A second and somewhat related matter is that of the Dani inability to use history as an example of how to look into the future. Due to the very strangeness of conceptualizing the past as being the passing of time over several generations during which progress and development was made painfully slow, they are unable to perceive that their own progress and development in respect to their participation in a market economy will take time. Because they tend to compress time, they also compress the stages of progress for development, and in all sincerity they believe that Western style affluence can be theirs in one generation. On one occasion, in
which I was trying to explain the time factors that would be necessary in order to effect certain changes, I made reference to the fact that in America a similar development took three generations. My listeners were ecstatic with my presentation, for they immediately compressed three generations of development into one, and left the meeting with the news that we were about to embark on a developmental program that would transform their lives into a model of affluence just like that in America. The result of these unrealistic aspirations of course is often bitter disappointment and resentment toward those who have failed to make them come true in their lives.

A third and final trend in their current behavior patterns is that of an unprecedented interest in the eschatological teachings of the Christian religion. At first glance it would seem that this strong Dani interest in future prophetic events was indicative of a whole new perspective toward time, but under closer examination it becomes evident that what is happening is that their compressed conception of time inhibits their long term projection into the future, and as a result the Christian doctrine of the imminent return of Christ is seen by the Dani as being very near indeed. Participation in that future is of course dependent upon one’s behavior now, and therefore becomes a common theme in promoting proper conduct. So once again, the Dani concern is not for future blessing or rewards in eternity; it is for a generous return in a very foreshortened future.

For missionaries, government officials, or the representative of relief agencies, understanding these values and this orientation can save them from frustration, and gross misunderstandings, as they seek to communicate cross-culturally from two very different time orientations.
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IKHTISAR

Dalam tulisan ini pengarang bermaksud untuk membuat suatu analisis tentang implikasi sosial dan budaya dari berbagai proyek pengembangan masyarakat desa yang bekerja di antara orang-orang Dani Barat di Irian Jaya, Indonesia. Maksud pengarang adalah bukan untuk memberikan perhatian pada pekerjaan organisasi tertentu, tetapi perhatian akan diberikan pada akibat-akibat yang merupakan puncak dari berbagai proyek baik yang mempunyai potensi untuk diselesaikan maupun yang telah diselesaikan. Analisis semacam ini dimungkinkan semata-mata, karena berbagai proyek yang telah berlangsung itu sesuai dengan usaha-usaha yang bersifat komplementer yang bertujuan untuk memberikan suatu program pembangunan yang terpadu. Program pembangunan tersebut bertujuan untuk memperbaiki tingkat-tingkat tradisional dari pelayanan perawatan kesehatan, potensi ekonomi dan pendidikan yang ada serta seluruh kualitas hidup orang-orang Dani.

Pada tahap ini dalam analisis kami, kami hanya bisa berharap untuk memberi suatu pandangan awal ke dalam implikasi-implikasi sosial tersirat dalam proyek-proyek ini. Penilaian yang lebih lanjut yang berlangsung terus-menerus dari proyek-proyek tersebut sangat dianjurkan. Untuk

In this paper my purpose will be to undertake an analysis of the social and cultural implications of various community development projects which are currently being carried on by a variety of agencies working among the Western Dani of Irian Jaya Indonesia. My purpose is not to single out the work or emphasis of any given organization, but rather to note the cumulative effects, both potential and already realized, of the various projects. Such an analysis is possible mainly because the various projects which have been undertaken fit into complementary attempts to provide an integrated program of development aimed at improving the traditional levels of healthcare services, economic and educational potential, and the overall quality of Dani life.

At this stage in our analysis we can only hope to give an introductory glimpse into the social implications implicit in these projects, and indeed a further and ongoing assessment of these projects would be highly recommended. For the purposes of heightening our awareness of the potential implications of development, this study can at least be a beginning and a point of stimulation for future ones. The conclusions drawn here are the results of my own participation in some of these projects and as such often I will speak of experiences and social consequences which have already taken place, and on other occasions I will make conclusions and projections which arise from my own recent studies and exposure to culture, culture change and development issues during these past few months.

A Brief Ethnographic Survey of the Western Dani

The term Western Dani designates a population of an estimated 150,000 inhabitants who speak a mutually intelligible language (Lani), and who live in the highlands in the Pyramid area of the Baliem, the North Baliem, and in Mbogo, Toli, Yamo, Sinak, and Ilaga valleys. Substantial contact with these inhabitants by the Western world was first made by missionaries in the mid 1950's and within six years virtually every one of the above areas was the site of a mission station. Government posts were subsequently established in these areas during the period of the 1960's. Technologically, at the time of contact, the Western Dani were a horticultural people who
practiced slash and burn cultivation with tools made out of wood, stone and bone. Their diet consisted primarily of sweet potatoes and sweet potato leaves, supplemented by the seasonal appearance of pandanus, bananas, and sugar cane. Meat was available only from the occasionally successful hunting trips or whenever there was a public ceremony which required the slaughter of pigs (except on the occasion of an accident death). Pigs were only consumed on festive occasions such as marriages, funerals, victory celebrations, etc.

Socially, the Western Dani identify themselves in respect to their membership in a patrilineage which is in turn identified as belonging to one of several dozen clan groups. Marriage was permissible only between exogamous clans who were identified on opposite sides of the moiety system which divided the tribe into two separate halves. Residence was chiefly determined by the availability of land which could be inherited from the patrilineage or which could be claimed by an individual through the process of bringing under cultivation virgin tracts of forest. A village typically consisted of a men's house with 10-12 adults in residence and an additional half a dozen or more family residences for the wives and families of the men in the men's house. Leadership was an achieved status which followed the traditional "big man" style of leadership which has been so well reported for Melanesia. Decisions which affected the community were never made without consultation with the entire community and all undertakings were the result of decision by consensus.

In pre-contact days villages would band together to form alliances and confederations in order to secure protection and assistance in maintaining peace or settling war claims, but in recent years with the advent of the peace-keeping role of the police and military, social organization is coming to focus most importantly around the parish for which a local church is the center, and which includes all those villages (i.e., men's houses) which are served by that church.

Economically, the Western Dani have traditionally been a barter-oriented society in which the major source of wealth was measured in terms of the number of pigs an individual owned. Given the labor requirements associated with raising the animals, few women could handle more than 4-6 pigs at any one time and few men could handle more than one or two wives at a time. The only effective way then of substantially increasing one's wealth and power was to put pigs out on loan to one's friends and relatives thereby securing their support, co-operation and future repayment.

Today, after almost thirty years of contact the Dani are very much aware of the potential value of cash and a money-oriented economy, but they still have very limited access to and opportunities for procuring cash. In 1980 I conducted a survey in the Mulia area and discovered that the average Dani household still handled about $10.00 - $15.00 (i.e., in U.S. $ equivalence) per year in actual cash. The rest of their livelihood depending upon their own subsistence labor and trade negotiations.

For most of their economic activities the Dani depend on their family members to constitute a functional economic unit. Heavy labor, whenever possible, is a shared endeavor and indeed becomes a social event. As such, opening
up a new garden, building a new house, and constructing a fence are all occasions for participation by all the members of a village. Only weeding, daily food and fuel gathering, and swine herding are considered to be individual-oriented tasks. Hiring out of labor was virtually unknown prior to contact with the West, but has been quickly learned and sought out by the pragmatic Dani. In labor agreements the Dani, for the most part, prefer to hire themselves out in large groups and often for the purpose of raising money for a community project. An alternative to this source of revenue is for a village to enable one or more of its members to procure a salaried position with the government or mission, who in turn are expected to channel their wealth back into their own communities.

It ought also to be noted that the major occasions for the transfer of wealth from individual to individual, or from clan to clan, were those which accompanied rituals or ceremonial events. These included such occasions as marriage, funerals, religious festivals, rites of transition, and alliances or solidarity and reciprocal feasts. Leading up to and supporting such events were the trading expeditions and other traditional economic activities. Even today major transfers of wealth (such as the opening of a clinic or church, the transfer of livestock, etc.) are turned into ceremonial occasions and much planning is required to maintain social solidarity which is implicit in much of the transfer of wealth between groups.

In respect to culture change and development, one of the most significant areas of consideration is the matter of Dani worldview. The Western Dani worldview has been marked by an openness to experimentation with new ideas and innovations and by a restless pursuit of the new. Prior to contact they had incorporated new practices, new physical assets (such as war vests and pipes) and new foods such as corn and squash which had made their way inland over the old trade routes. After contact, they made a massive change in religious practices by rejecting their old ancestor and animistic worship by turning to Christianity and they have since continued to show openness toward experimentation with almost all new programs and projects in which they perceive an improvement over their past and present circumstances.

Underlying much of this attitude toward change, though, is a very subtle form of naivete that could rebound on those who are active in development projects among the Dani. This naivete is rooted in the epistemological concept that knowledge, good fortune and wealth are dependent upon and centered in the supernatural. Add to this the very egalitarian nature of Dani culture and the very high value they place on equity and amity and the result is a social climate that is ripe for misunderstandings. The Dani want change and improvement and given their epistemological assumptions, wealth and material things are not the end product of years of development and technological advance, nor are they dependent on hard work and prudent calculations. Rather, they are the result of a proper alliance with the supernatural and the reward of righteous and moral behavior. The Dani then, like so many other Melanesians, want to ally themselves with the right religion, be initiated into the secret formulas for wealth, be shown the true path to the storehouse of goods, or at the least be able to establish a bond of kinship/friendship with a morally responsible and
wealthy benefactor (individual or corporate) who will share their wealth with them. In other words, wealth and affluence is a reward, not for hard labor and years of planning, but for moral diligence and political prudence.

The end result of all of this is an almost total deafness, by the Dani, toward the concept that development takes time and that there is no significant advance without hard work. Further, there is a lurking feeling among the Dani that the outside world is morally responsible to share their wealth with them and that what they (the Dani) really need to do is to find a morally responsible government or aid agency with whom they can become associated and the result will be an unending flow of goods. Needless to say, the end results of such aspiration have so far been disappointing, but this factor of Dani worldview, as well as its effect, needs to be understood by aid agencies as we will note in the pages to follow. I turn now to a consideration of the various projects which have been undertaken among the Western Dani.

Projects aimed at improving healthcare services

In an area that was totally dependent on non-professional medical practitioners and herbal medicines, one of the outstanding focuses of the first medical services (by the missions) was to meet the primary healthcare needs of the sick and injured. What was needed were facilities and staff that could handle emergencies (burns, broken bones, cuts, complicated deliveries, etc) and treat illnesses (such as tropical ulcers, yaws, malaria, etc.). As time went on it also became evident that preventive medicine was as important and maybe more so than primary care services and so added to the first services were immunization campaigns, village sanitation drives and health education courses. As the Dani became aware of the benefits of modern medicine, their demand for such services quickly grew, but was often complicated by the fact that people who lived the furthest away from a medical center would delay seeking help (in the hope of avoiding the trip) until their condition was critical.

Virtually all of the missions and every major center became involved in medical services and in order to offer such services, personnel, facilities and money were required: personnel in the form of trained medical workers who could in turn train other local assistants; facilities that could meet the needs for village level care and a referral facility for more complicated matters; and of course money to operate the facilities and to maintain a supply of medicine.

The personnel needs required the recruitment of doctors and nurses, both expatriate and national, and necessitated the opening of training programs for local assistants. These training programs for the most part have sought to make the clinic assistants proficient in the diagnosis of the most common ailments in the community (such as malaria, worms, infections, etc.), the dispensing of some medicines, or the treatment of some conditions (such as minor wounds), and in knowing when to refer on to or work with a clinic nurse or doctor in the treatment of more severe problems. In some instances their training also extended to community health programs and specializations for those with special aptitudes.
The level of facilities have differed from area to area, but in the Mulia area, which probably has the most extensive medical program in operation, the facilities include a small centrally located hospital (fifteen bed capacity) and upwards of twenty village clinics strategically located so that residents in the community would not have to walk more than one and one half hours to reach a medical facility.

One of the knottiest problems facing these programs in respect to finances was (and is) the problem of salaries for the clinic workers and the high cost of medicine. As was noted earlier, cash is not available in abundant supply in the Dani community and even at a highly subsidized rate medicines are expensive. Approaches to solving this problem have varied over time and from region to region, but using the Mulia plan again as an example, each local valley has been given the responsibility for raising the finances for its own clinic. This usually means that residents are asked to contribute a minimum sum in return for the assurance of free and continued medical care. These contributions are then forwarded to the center where those clinic received a credit toward the future purchase of medicines.

Having thus briefly reviewed the attempts of the various missions and agencies to provide improved medical care to the Dani community, let me now proceed to make a social assessment of these programs. To begin with I'd like to note that in pre-contact days there were no professional shamans or witch doctors who had the responsibility for curing the community's ailments. While it was true that some men (and women) knew curing chants and resorted to the use of herbal medicines they were not specialists in curing. As such, the recruitment, training, and use of qualified young men as orderlies and clinic workers provided no immediate threat to any established roles in the communities. Indeed, to the contrary, it met a felt need for the community to have someone of their own kind who could function in this particular role in their lives. It has even been our observation that in many cases Danis prefer to be treated by their own clinic assistants, who may be at a very low level of training, than to seek the more professional services of an outsider.

On the whole, the Dani have openly accepted medicine and medical treatment except where there has been ignorance of what help could be given or when patients will wait until very late in their illness before seeking treatment. This is a trend that has been somewhat reversed with the opening of additional clinics and with greater healthcare information going out to the communities, but patterns of behavior are still slow to change.

A new and emerging problem that can be expected in respect to the clinic workers is the fact that their training and status in the community has begun to create a new elite class in what was formerly a highly egalitarian society. Because they are specialists in a society which had relatively few specialists and because they are in great demand, their potential for abuse or for provoking social conflict is greatly increased. No community is going to want to censure or put social pressure on a clinic worker who could retaliate by leaving their area and a community is going to be much more likely to confer political and social and economic privileges on a clinic worker in order to make him want to stay. Resolving this problem and
minimizing this tendency or temptation will require very careful planning by the various projects and it may indeed be necessary to train more workers than is actually required so that no one individual can consider himself indispensable or irreplaceable.

The location of the clinics, as we have noted, was decided on the basis of geography and strategic location to the surrounding population. As critical as these considerations may be, it needs to be noted as well that the creation of a clinic center also involves the conferring of power and prestige to the leaders who may reside at that location. Some thought, then, must be given to the political implications of a given location, for if it is the site of a weak man or a greedy and ambitious man, opposition from the community could work to the detriment of the whole community. Consideration then must be given as to how to maximize support for the clinic, how to diversify to other ‘big men’ a sense of shared power in the supervision of the clinic and how to reduce regional or clan competition over the operation of the clinic.

In respect to finances that given the primacy of their concern for adequate medical care the Dani will do everything they can to ensure the finances necessary for the operation of their clinic. True, they will often undergo a lot of extra pain and suffering in a situation in which they may need a particularly expensive treatment but can’t afford it, but on the whole they will do everything possible to support their clinics, even to the extent of sacrificing other areas of need and responsibility. In order to minimize these kinds of frustrations, a lot of careful consideration needs to be given to determine what is a reasonable financial burden curing. As such, the recruitment, training, and use of qualified young men as orderlies and clinic workers provided no immediate threat to any established roles in the communities. Indeed, to the contrary, it met a felt need for the community to have someone of their own kind who could function in this particular role in their lives. It has even been our observation that in many cases Danis prefer to be treated by their own clinic assistants, who may be at a very low level of training, than to seek the more professional services of an outsider.

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In keeping with contemporary concerns for medical care in developing countries, healthcare services among the Dani have been designed to include considerable attention to the need for health education programs and preventive medicine. At the forefront of these programs has been the attempt to educate villagers in the need for using pit toilets, keeping pigs fenced in in order to prevent the spread of tape worms and the protection of springs used for drinking water. There has been no major opposition to the concept of building the pit toilets, and indeed it has been made socially desirable to have them by reason of the fact that every village was targeted to have them and social pressure was placed on those which delayed their participation. The problem has come in maintaining them and systematically using them. All too often defecation is easier and faster if done behind a fence or down by a stream bed, where all the village animals would have access to it. Change in this case, though, is a matter of changing habits, rather than social
resistance, and given time and education can be expected to occur.

The Dani have always recognized and respected the need for clean drinking water and this tradition needs to be reinforced by actually fencing off and protecting springs of water. Some areas have even undertaken projects to bring spring water into village plazas, which on the average has required water carriers to travel a half mile or more, round trip, to procure water. Such water centered projects have increased the awareness of the Dani to the value of their water resources and the need to protect them before they become contaminated.

The matter of fencing in their pigs will be, I would anticipate, a very complex matter. Penned up animals require a whole new approach and mind set in caring for them. In the past, pigs have been allowed to root around on their own, thereby securing much of their own food by themselves. Traditionally pigs have been turned loose in nearly depleted gardens where they root up residual potatoes and do a fairly complete job of turning over the soil in these garden beds. Being penned up, though, is going to require that all of their food needs are going to have to be met by their owners bringing it to them, and in place of the grubs that they would normally root up, they will have to be fed protein substitutes such as are found in legumes and soy beans, without which the pigs could become sickly and even die. Introducing changes in routines which have been established over long periods of time can be expected to have mixed results and indeed only the threat of losing their pigs altogether is going to induce them to persist in making the new program work.

Vocational Training and Education Programs

Currently there are two kinds of educational programs underway in the Dani area. There is the traditional school program that seeks to educate children in a standard pyramidal approach to education where all children are expected to attend grade school with a weeding out process whereby deserving students are successively selected to go on to the higher levels of secondary and college level training. To date, nowhere near all of the children are enrolled in the lower grades and only a very small number of Danis have gone on to the Junior High or Senior High level. However that may be the intent of these programs is typical of general education programs and may be summarized as follows:

1. To dispel ignorance and error.
2. To create a sense of national identity and nationhood.
3. To enhance and direct acculturation toward and participation in the national culture.
4. To create awareness and opportunity for responsible participation in the rights and role of good citizenship.
5. To create a scientific and historical perspective toward progress and to teach the skills to handle new technologies and innovations.

The long range implications of the intended changes which are indicated in these goals are monumental even to consider, but because they are aimed at children, restricted to a relatively small proportion of the community, and effective only after several years of training, it will be some time, possibly even a full generation,
before this approach realizes its fullest influence. In the meantime, there are some immediate consequences which the school programs are having on the society.

First of all, the children who attend school are withdrawn from the traditional work of the family and this throws a greater labor requirement upon the parents both in the tasks of providing food, fuel and the necessities of life, and in the tasks of caring for the family livestock, other younger children or other community social obligations. Furthermore, with an outsider acting as teacher, the traditional teaching role of the village elders and the long term educational process of learning by watching and doing is broken down and greatly weakened as the children establish new and often conflicting loyalties toward their teachers. Quite obviously none of these problems are unique to Dani culture and while they are, I believe, inevitable and inherent to this approach to education, they are problems whose consequences can be made less socially disruptive by sensitive administrators who seek to work with parents in order to coordinate their mutual goals for the total well-being of the community.

The other level of education which is being undertaken among the Dani is the (non-traditional) approach which is aimed primarily at adult education. For the most part these courses of instruction seek to teach specific skills. There are several types of these, including:

1. Literacy skills: which teaches reading and writing, and requires only 3-5 hours of schooling per week.
2. Occupational training: so far only two specialized occupations have arisen in Dani culture and these are the medical worker, about whom I have already written, and the pastors who have been trained in three-year or ongoing extension training programs.
3. Vocational training: these include courses in carpentry, sewing and tailoring, typing, animal husbandry and agriculture. Such courses typically last for several weeks, and the participants are quickly returned to the life of their community.

The social effects of these various programs are quite varied. Literacy skills were perceived early as being highly practical and greatly desired. They allowed for the sending of messages and the transaction of business over distance with an efficiency that far surpassed the older oral traditions and it was an exciting new social pastime. Written communication then, has become an integral part of Dani life, and indeed is seen as a much more binding and secure way to convey information and requests. As such, proposals between young people for marriage are conveyed in writing, as are business transactions and promises. Apart from the Christian Scriptures, though, very little has been written in Dani, and as a result there has not been the emergence of a writing style or a body of literature that would stimulate and reward people's drive to learn to read. There has at the same time been a general tendency to neglect their old oral traditions and the result could quite possibly be a sense of transitoriness and
loss of historical rootedness or heritage. In order to preserve their heritage then, the Dani need to be encouraged to put their oral tradition into writing and to further develop their writing skills by writing about other contemporary topics of interest.

In respect to the training for the ministry which was noted earlier as the other form of occupational training which has emerged in Dani culture, there have been a number of interesting developments over the years. Candidates for this training have traditionally been selected on the basis of proven leadership abilities and village approval so that upon graduation from their course of study they are essentially returning to the life of their communities in a task for which they have already been approved. Further, they do not receive a salary apart from the contributions of their own communities and still largely rely on their own subsistence activities for their material well-being. As such, social conflict and disparities have been minimized in spite of the fact that a whole new class of leaders (i.e. a clergy) has been created. When conflict has arisen, it has been in those villages where a strong pastor has differed with a strong government appointee and care has had to be exerted in order to define the lines of authority between clerical and political roles as these have been defined by outside social structures where such social patterns have long been the established norms.

The various experiments in vocational training programs have produced some very interesting results and insights into Dani culture. For one, we discovered that the Dani learn best when they are in an apprenticeship relationship to their teacher or when they can have a hands-on type of training during which the teacher can make corrections. Simply disseminating information or relying on short term courses which don’t allow for adequate internalization, or social alignment, or acceptance of that information is totally ineffective. Students could memorize lists of actions to take in a given situation and would be able to repeat them back on exams, but they still could not perform those actions in a real life situation or would be embarrassed to do so because it was different, out of the ordinary, or failed to meet social expectations.

We also discovered that learning and performance of learned skills took place best when students were placed in group situations. A single individual, without the stimulation of others near him would soon cease to use his new skills, and would more rapidly forget them after they had already been learned. It became obvious then that we needed to optimize the effectiveness of our training programs by encouraging a social context that would stimulate learning and promote usage afterwards.

A third lesson which we learned was that as the Dani learned new skills these became stepping stones for their own personal rise to power. If an individual learned a carpentry skill, he rarely ever settled down to being just a carpenter, but wanted to move on into the sewing program and then into the agriculture program, or if he couldn’t do this himself would be pushing for his wife or some other close relative to be in such programs. What seems to have been taking place here is a combination of effects. Specialization in a trade and excellence in a given vocation are purely western values. The Dani, on the other hand, apparently see these
skills in terms of what they have interpreted to be the necessary attributes of the "new" big man who needs to rise within Dani culture to replace the "old" big man. To be influential in the new order of things, for the Dani, means being familiar with and competent with the technologies of the new order, and so acquiring these skills has become their goal. Furthermore, the community has accepted that this pattern of adaptation should be so, and they recommend, often over our objections, the same individuals to all the training courses which are offered. The only obvious recourse in such a situation seems to be to do as the medical program has been encouraged to do, namely, to plan on training three or four times the required number of persons in each skill so that power can not unduly accrue to a few individuals.

A fourth and very critical lesson was the realization that the Dani sense of equity and amity between villages, regions and clans made it absolutely imperative that the selection of students and the allocation of resources be done in a systematic way so as to promote fairness to all segments of the population. As is evident from all of the above, vocational and educational courses do more than teach; they confer prestige, create power and open access to wealth, which are some of the most basic issues of life and of social structure. They can hardly be ignored.

**Agricultural Projects**

Inasmuch as the Dani are a horticultural people, one of the goals of a number of the development projects has been to make them better farmers through the introduction of new and improved crops and through the teaching of new agricultural techniques. The various development projects have included: the widespread distribution of new varieties of table vegetable seeds, the introduction of new larger strains of pigs, and new livestock, including cows, sheep, goats, rabbits, chickens and horses. Further, there has been an attempt to introduce the concept of composting to enhance land use potential.

The introduction of vegetable seeds was probably the easiest task undertaken. They were first of all given out on an experimental basis and within a few seasons it was apparent how altitude, soil, sunshine and moisture affected the new seeds. The most important social effect of these new seeds came in that the motivation for planting the new seeds was to be able to have something to sell in the marketplace where government workers, missionaries, and landless visitors could purchase food supplies. The vegetable seeds then resulted in a small scale introduction to cash cropping, which prompted men to take a more active part in their gardens. This had been primarily a woman’s domain. From all appearances, this did not create a role conflict for either sex since it came about as an extension and adaptation of traditional roles which were not in conflict with one another. It did alter considerably the traditional flow of wealth within the community, however. Families who had access to land and sufficient labor resources could plant larger gardens (either in peanuts, soy beans or table vegetables) and reap the potential benefits of selling their produce to others. The natural result, of course, was to bring larger portions of the surrounding country under cultivation leaving less land lying fallow.
This whole cycle has launched the Dani community into an ecological spiral of overuse of resources, for which the end results can hardly be predicted, but it would seem very prudent to call in some ecologically sensitive consultants to give advice on how to bring balance back into the cycle.

One other effect of the vegetable crops has been the introduction of some of these food stuffs into the diet of the Dani. Sitting around eating roasted peanuts or steamed soy beans is a common social function nowadays, and increasingly, cabbage, peas, corn and squash are being cooked along with the traditional sweet potatoes, which, of course, still constitute the mainstay of the Dani diet.

The new livestock have had mixed results. In general we might say that the larger the animal and the more care that it required, the greater chance there was that it would not succeed. Horses, to date, have been a total failure, but cows have had some limited success. Bali cows, which require less care than milk cows, tend to do better, but the size of the animals is frightening to most Danis and hence they tend to let them go wild which greatly complicates their care and usefulness. Further, ownership of cattle is complicated by the scarcity of good pasture land, land tenure problems, which restricts most men from being able to own sufficient quantities of land to be put into pasture, and the overwhelming requirements for fencing to control the cattle's movements. For these reasons it would seem to be more prudent to encourage smaller, more easily manageable animals, such as goats, sheep and pigs.

Sheep and goats have been introduced in several areas and in the process still more insights have been gained into the Dani mind. Prior to receiving their animals, recipients were taught how to build pens for their animals, how to feed and care for them and what to expect from their new animals, but for the most part it was all theory. The day the animals arrived each recipient took his animals home and within a year half of them were dead or at least such was the experience of the Mulia sheep project. The project has since recovered from those losses, but the failure came from several oversights, namely:

1. The failure to prolong the recipients' training through an extended period of time while they had actual animals to work with.

2. The failure to recognize that women do most of the daily chores associated with the care of a family's livestock which frees the men to go off on short trips or to care for other community affairs. Not including the women in the program and not encouraging the men to include their wives meant that in many cases a single man was responsible for a pen and animals were neglected to the point of starving to death in some instances.

3. That the Dani practice of "maintenance feeding only" schedules for their pigs, which means that they only bring them enough food to keep them alive and relatively happy, but definitely not fat, and that they would do the same (in spite of their training to the contrary) with their sheep and goats. As a result, these animals never did well as long
as they were penned up and not allowed to forage for their own food.

4. Raising sheep was just sufficiently different from raising hogs that the Dani failed to recognize when an animal was falling or what steps were needed to turn its condition around, and that while they were greatly experienced in the care of pigs, they did not have a long history of the care of the new animals from which to draw upon.

In spite of these many problems, though, sheep and goats have a valuable contribution to make to Dani life in that they are animals which do not compete for the same food stuffs as humans, they can be fed on lands not required for other uses and they are a potential source of food or income. Undoubtedly sheep and goats will never have the social prestige or value as pigs, but as a secondary source of meat they are very viable.

New and larger strains of pigs have also been introduced, but their influence and success continues to be an unknown factor. The larger pigs require a more protein rich diet than the traditional pigs, which means having to feed them rations enriched with soy beans. Learning the proper mix of soy beans to sweet potatoes has been an arduous task and some of the best breeder stock has been starved to death as a result. Further, regional conflicts, power struggles and old hostilities have broken out over who gets the next batch of pigs and it all adds up to a new awareness that pigs are more than meat to the Dani. They are the symbol and heart of Dani society, so that whoever touches their pigs or changes the careful balance that has evolved over the years is taking hold of the most sensitive aspect of their culture. Whether these new pigs will survive, whether the new technologies will be mastered, whether the social balance of the communities will be maintained are all unknowns at this point, but it does seem certain that only time and careful and sensitive planning will make it come out on top. It is at least one project for which there is no lack of enthusiasm and at least one area has sought to correlate pig production with the need for raising cash for the cost of medicines.

Before leaving this subject of agricultural programs, it ought to be noted that the use of compost and crop rotation has been introduced to young Dani farmers and in particular to the owners of the sheep and goats. For the most part these suggestions have been ignored by the Danis as being too alien and too distasteful to put into practice. In those few areas where individuals have used their compost it has been for small garden plots that were close, very close, to the sheep sheds. It would appear that the only way such techniques are ever going to be incorporated on a large scale is if a whole men’s house can be persuaded to practice composting for one or two seasons and then work with a trained agricultural worker to make sample plots in their gardens and note the effect the composting makes. If a whole group participates it would be much more likely of success than for just one or two isolated individuals.
Nutritional and Childcare Programs

A health survey conducted by the medical personnel at the Mulia hospital revealed that 60% of infants under the age of five showed evidence of malnutrition and that the mortality rate of this same age group was 46%. In our attempt to reduce these staggering figures several of the centers initiated pre- and post-natal healthcare programs for the children under the age of five. In determining the source of the problems that the Dani parents were experiencing with their children it was concluded:

1. That the deaths occurred in spite of the loving attitude and caring concern of the parents toward their children.

2. That children would become vulnerable to illnesses as a result of already weakened bodies due to their lack of proper nutrition.

3. That parents often failed to recognize the first signs of undernourishment and poor development.

4. That Dani mothers were ignorant of the principles of good nutrition, the techniques for preparing food for their infants, or the desirability of early supplemental feeding of the largely breast milk dependent children.

To combat these problems it was proposed that a rehabilitation center be built with residences being constructed by each of the various representative areas for their own people to use and that women who were to participate in the program as assistants be likewise representative of the various areas. In order to ensure the fullest possible support of the entire community, it was decided to make the program sufficiently large so that anyone who was not participating would feel left out and confronted by the social pressures of the community to participate. Further, we sought to bring moral pressure on parents by linking the goals of the program to traditional Dani values so that failure to participate would be interpreted as being a moral abdication of parental responsibility.

The program involved sending teams of girls out into the communities where mothers with infants were enrolled and every month babies were examined and weighed and mothers instructed in good infant care techniques. Each infant's growth was plotted on a growth chart and at the first sign of ill health or slow growth the mother was asked to come into the rehabilitation center where she was then given additional help and instruction in food preparation techniques and restorative procedures, utilizing locally available food stuffs, so that upon her return to her home she could continue to practice what she had learned. In the few years that the program has been in operation it has taught parents how to recognize infant needs, has provoked new standards for infant care and has saved the lives and health of countless infants.

For the Danis, the program has been widely accepted as meeting a felt need and has provoked some interesting and at times unexpected results. The death rate for both infants and adults has dropped dramatically and as a result, a funeral ceremony has become the focus of a great deal more interest than in the past. Secondly, there are a lot more children who are living, and it
will be interesting to note whether the loving attitude of parents toward their children continues during a period when children are in such an abundant supply. Will they create new tensions for orphans, who in the past were readily adopted by other families, and will they add to or aggravate the labor force or work requirements of the community? In addition, and as could be expected, the total decrease in the death rate has led to a rise in the population figures, so that though the Dani do practice birth control by abstinence in order to space children minimally at three years apart, there has been a significant rise in the population. This, of course, adds social stress, and there seems to be a definite correlation between the incidences of social conflict and the rising rate of population density for the given areas.

**Programs aimed at natural resource management**

Water, timber, and land have always been available to the Dani in reasonably sufficient quantities, in part due to their abundance and in part due to the management techniques of the Dani populace. Population densities were kept in control sometimes by wars, but mostly by the migration of families into virgin areas. Also, the slash and burn gardening was done on a schedule that allowed large tracts of land to return to forest. In any given area then, it was possible to see virgin stands of timber, former garden areas where secondary forests were evident, and then to note the several stages of new gardens. With the advent of the outside world, though, migration into new areas has slowed down, population density has shot up, the demand on the natural resources by the outsiders for land, food, and fuel, which along with the cumulative effect of years of use without sufficient replenishment has resulted in rapid deforestation of some areas and soil depletion by over-gardening in others.

In response to these matters, and as we have noted earlier, some steps have been taken to guard springs of water and composting has been recommended, but these are only small steps toward resolving what is a growing problem. Much more needs to be done to ensure the more efficient use of the land by its owners, the reforestation of wooded areas, and the planting of the most useful crops. For instance, there has been much discussion about introducing cash cropping by planting large portions of land in coffee trees. If this were done in conjunction with the planting of shade trees that could also be timber or firewood producing, then at least two goals or needs of the community would have been met. On the other hand, if it uses lands that should be reserved for garden space, then it is a complicating and counter-productive proposal. Without requiring extensive and time consuming surveys, what seems to be required is someone who knows the language and the situation and who has a longer time perspective than the Dani, so that he can project needs twenty years into the future. Then he needs to sit down with the villagers and ascertain with them what their current needs are and to project what these will become in the days ahead, so that plans can be laid now for meeting those needs. This highly imprecise approach may very well be wrong in some aspects, but it would at least take into consideration some of the issues and it would be
a good beginning in the face of virtual inaction now. It also has the advantage of seeking to involve the Dani community in the problem of solving and planning needs of their own society related to their own resources.

Before leaving this subject, some mention needs to be made of labor management, which is closely related to land and resource management. Large labor crews have always been the means whereby forest areas have been cleared, fences built, timber and fuel cut from trees and paths and village sites made safe. Before engaging in any of these matters, the village headmen would have to plan how big a work force they needed and could muster by calling on friends and relatives and how much food was available to feed the crew which did show up. The whole process was a very complex and socially intricate matter. But with more and more individuals leaving the traditional work force, either because they have found employment in the town or have gone off to school, and because the social solidarity of the group has begun to fragment, the ability of a men’s house to call up labor from others has been greatly reduced. This means that more labor is being required of those who remain and they are beginning to voice their objections to the increased work loads. What seems to be needed here are some technologically appropriate recommendations that would satisfy the Dani requirements for food production and living standards. Such recommendations should include such things as fuel efficient stoves, more permanent fencing, new tools and equipment, including the possible use of powered ones, etc. The limits of growth in some areas seems to be tied to the strength of the work force and so some alternative solution will be needed.

Projects aimed at the generation of new sources of income

It has been a good many years since the Dani have relied on their old cowrie shell currency to carry out a transaction and while the transition to government-issued currency took place over several years, it has by now become a fully appreciated form of wealth. The Dani, of course, do not understand such complex matters as inflation, deflation and money supply, nor do they appreciate the source of money and its underlying strength. They have become aware, though, that it can only be procured in exchange for goods or labor, both of which the Dani are willing to sell. Employment opportunities in the interior are limited though and this leads to the very strong pull, especially for the youth, to attempt to get to the cities along the coast where they might find work. This trend towards the cities has all the similar problems of urbanization which characterize other third world nations and yet, in spite of them, virtually scores of Dani young people leave the interior every year for the city. They continue to rely on the support of their families back home to help them if they get in financial or health problems and they do provide a trickle of funds back to their homes. Probably the greatest role of this new pattern of migration is that it acts as a safety valve to release the mounting pressure of population growth back home and the restless spirit among the young to get beyond the slow-moving life styles of their parents.
In a different vein, some Danis have sought to generate an income by operating a small business of their own. These have taken the form of cooperative ventures involving several people or just as often, an individual entrepreneur, and frequently the process has involved selling vegetables (or a pig) at the coast, where prices are highest, and then using the profits to purchase a small stock of goods to sell from a small roadside stand. As an encouragement to such ventures some projects have sought to lend administrative and financial aid to such ventures, but for the most part they continue to be very small operations involving only hundreds of dollars rather than thousands. These ventures need to be encouraged, though, for they are helping the Dani to develop a business acumen and a business ethic that deals with money and outside business firms. These are skills that differ considerably from their traditional system of trading partners and closed markets. Furthermore, it is giving them a sense of control and participation in their market economy which is necessary for their own sense of well-being and identity.

Projects aimed at improved housing standards

Traditional Dani houses are circular buildings constructed of a double row of wood slats stuck into the ground and lashed together with a grass lining between the layers for warmth and insulation. On top of this is lashed a conical thatch roof supported in the middle by four poles which also mark the perimeters of the central fireplace. Access is gained through a small crawl hole door or, in the case of a men’s house, by two such openings. Smoke makes its way out through the thatch however it can. Sometimes a second story sleeping loft is constructed at the level where the walls and roof meet, and in many cases a bamboo floor is constructed on the ground level. The windowless and low lying nature of the houses makes them quite easy to heat, which is somewhat fuel efficient but also smoky. The smoke does combat mosquitoes, but it also compounds Dani health problems, especially upper respiratory complications.

In an attempt to overcome the ill effects of the smoke (namely the dirt and the health problems) the use of the second story sleeping lofts, where the smoke congestion was the worst, has been discouraged, but other attempts to combat the smoke have proven ineffective. An alternative approach which has been suggested has been to construct small, two or three room, square dwellings with aluminum roofs. While the intent of this project is laudable the social and ecological factors involved here are staggering. Such housing would indeed be cleaner and possibly more healthful, but such houses would be harder to heat, requiring the use of more fuel and will almost surely require the use of blankets to keep warm at night. This project also implies the abandonment of the traditional men’s house where all the men spend the night together, in favor of each man spending the night with his own family. Such a move of course affects the whole pattern of decision making, social solidarity, and community oneness, in favor of individuality and a stronger nuclear family unit. It ought also to be noted that traditionally only 8-10 families lived together and the temptation in this new project will be to create larger housing
complexes more characteristic of small towns. This would, of course, totally change the leadership and social character of traditional Dani life. Given these far-ranging ramifications arising out of a desire to improve Dani housing it seems evident that the social aspects ought to take precedence in guiding the planning of this project.

Conclusion

Our discussion thus far has ranged over the major changes that have been proposed or undertaken among the Dani people. What still needs to be considered in this paper is the effect of the total impact of all of these projects working together. As we have seen, hardly any aspect of Dani life has been left untouched by the changes which are sweeping through their communities. There have been major changes in their religious life, their political life, their social structures, their habits of working, learning, and living and even the physical world around them is changing. All of this has taken place in the past thirty years. Borrowing a phrase from another New Guinean, it is as if the Dani have sought to compress two thousand years into a lifetime in their determined goal to move into the lifestyle of the 20th Century. The question which needs to be asked, though, is how much change can one generation reasonably experience without going through social disintegration or personality dysfunctions. It is a difficult question to answer for there are so many variables to be considered. Development in Papua New Guinea has progressed at a scorching pace over the past several years and it is evident that people can handle massive amounts of changes, but where are those elusive boundaries? On the positive side of the Dani case is the fact that most of the changes are ones that they have wanted and at times even insisted upon having. It has also been to their advantage that in many, even most, of the changes the Danis have been active participants in directing the change. That does not mean, of course, that everything has gone according to plan, but at least it leaves them with the feeling that they are in control. However, when the negative consequences come, aid personnel and agencies need to be available to give direction, to help in the corrective process and to share expertise and experience in order to get things moving in more desirable direction.

Further, it needs to be a major goal of the development agencies and the development projects that they seek to create dignity and a sense of strong identity which is compatible with reality. In the past all too many projects have been undertaken in other countries which have created a sense of dependency between recipients and donor agencies that has been self-defeating. Dependency is a temptation all too evident among the Dani, who are more than willing to exchange their loyalty in return for the patronage of some powerful or rich benefactor. It is a concept that stems from their traditional worldview and it is totally in keeping with their value system. In order to learn self-sufficiency and in order to enrich their own productivity, assistance to them should be tied to some form of reciprocity or meaningful contribution from them.

Finally, aid agencies and personnel need to be sensitive to the fact that there is a Dani
tendency to ascribe unrealistic aspiration and even millenarian hopes to the statements, promises and undertakings of those whom they perceive as benefactors. An awareness of these tendencies does not mean that such misunderstanding can be prevented, but they can at least be corrected, guarded against and in some measure controlled if they are perceived as being a potential threat and are anticipated. The problems are indeed many, but the enthusiasm of the Dani is infectious and they are a joy to work with.

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