

ETHNOZOOLOGY IN THE TRIBAL WELFARE OF
MADHYA PRADESH AND ORISSA

By

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INTRODUCTION

In a developing country like India it is extremely difficult for an ordinary citizen to afford medicine, especially in prolonged diseases. Even if with difficulty we can extend the medical facilities, how many have the capacity for the post-care after the discharge from hospitals. All of us know that there are a number of indigenous medicines which if readily made available can be utilized with advantage. The ordinary citizens can afford these medicines ; besides they are time-proven and practically without any side effects. The ethnozoological survey of Madhya Pradesh and Orissa has shown vast potential in developing indigenous medicines from animals. When these medicines are to be produced on a large scale, it will automatically generate employment. There is not much to gain by simply saying that we have to uplift the tribals. On the contrary we should find ways and means to achieve our goal. Large scale production of tribal medicines is one of such ways. And the ideal place to start such factories is the tribal areas. It is because the raw material required is animals that can easily be reared or cultured in their areas rather than in cities. Most of these animals used for medicines can also be used for food, which contain precious animal protein. Intelligent exploitation of these animals can provide the much needed protein food for

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the tribals as well as for others. The flesh of many of these animals has a ready market and some of them are delicacies. Besides, their hides can be utilised in leather industry and skeleton in bone meal industry. So what I want to stress is that side by side with the development of these areas we also stand to gain much benefit, or rather there is an all round development of the country. In other words mutual help is more beneficial than one-way traffic.

MATERIAL AND METHODS

A detailed data sheet on ethnozoology was prepared to ascertain the utility of animal parts as medicine, food, fertilizers, fuel and dye ; their role in witchcraft, astrology or forecasting, mechanical uses, ornamental uses, decorative purposes and industrial uses ; their application in omen, folklore, myths and totems and taboos ; and their role as harmful animals, pests, vectors, baits and pets. I gave field training to a team of four scientists from 4th to 27th November 1982 for systematically collecting field data. For the survey the 'Tribal Map of India' (based on 1961 census) showing the distribution of tribes compiled by the Anthropological Survey of India, Calcutta and the 'Annexure to the Tribal Map of India' by Gohain (1971) were found extremely useful. Data were collected from different villages of the same district and from different tribes living in the same village. Mostly the data were collected from the tribals living in the mid of forest and they were compared with the data collected from the same communities living near urban areas. It has shown the impact of urban culture on tribals.

Madhya Pradesh was selected for the first survey because it has the largest tribal population in India. According to 1981 census, it has 52.18 million people, of which 11.99 million are tribals. It means that 22.97% of the population is tribals. This state was surveyed from 4th November 1982 to 4th April 1983. Of the forty-five districts, forty-one were surveyed, the details of which are given below in the order of dates of survey :

Table 1. Details of Madhya Pradesh Survey

Districts surveyed	Localities surveyed	Name of tribes	Date
1	2	3	4
Rewa	Barhara, Behradaba, Chirah, Damodargarh, Dhumai, Gopla, Hanumana, Harrah, Jarkur, Kanaihayya, Kunrar	Badigar, Baiga, Gond, Kol	9-12.xi.1982
Sidhi	Bindul, Chamdarsa, Dudhmania, Juiry, Kusmi, Rauhal, Sarai	Agaria, Baiga, Biar, Gond, Khairwar, Kol, Panika	14-17.xi.1982
Satna	Kumhari, Naugawa, Obra, Ruhania, Paharigaon, Pateri, Pipria, Shivsagar, Turrah	Bhand, Bhumiya, Gond, Kol, Mawasi, Nat, Pao	19-23.xi.1982
Panna	Agra Basti, Baragaon, Madala, Mandla, Muthnur, Ranigunj, Selha	Bhumiya, Gond, Khairwar, Kol, Nat, Sonr	24-26.xi.1982
Chatarpur	Kurrah, Pinotha	Bhumiya, Gond, Khairwar, Saur	28-29.xi.1982
Tikamgarh	Chomo, Prathbipur	Gond, Saur	1.xii.1982
Datia	Khodan, Senpura, Tilejha	Seharia	4.xii.1982
Gwalior	Bhartari, Damanka, Moraigaon	Sebaria	5-6.xii.1982
Bhind	Gohad, Mehgaon	Gond, Korku	7.xii.1982
Shivpuri	Jakhlon, Karaigaon, Majra, Mayagaon, Survara	Seharia	9-10.xii.1982
Morena	Chakgaon, Gaswanigaon, Gopalpurgaon, Kapoora, Paligaon	Patillah, Seharia	12-13.xii.1982
Guna	Agaragaon, Bhaintagaon, Bhula, Chandanbhergaon, Godar	Bhilalas, Seharia	15-18.xii.1982
Vidisha	Goria, Madiakhurd, Manupura, Raisnagar	Gond, Meena, Seharia	20-24.xii.1982
Rajgarh	Harjipura, Junapani, Vijaygarh	Bhilalas, Seharia	26-27.xii.1982
Shajapur	Mayapur, Tukrana	Bhilalas	28.xii.1982
Sehore	Beerapura, Nadan, Shampura, Shekpura	Bhilalas, Gond, Korku	29-30.xii.1982 & 29.i.1983
Ujjain	Khacharod, Rasoolabad	Bhilalas	31 xii.1982
Mansaur	Kachnar, Lughmara	Bhil	1.i.1983

(Contd. Table 1)

Districts surveyed	Localities surveyed	Name of tribes	Date
1	2	3	4
Ratlam	Chawrakheri, Kotada, Rowati, Tamalias	Bhil	2-3.i.1983
Jhabua	Ambakhra, Bari, Burdoo, Gandela, Kayrawat, Kund	Bhil, Bhilalas	5-8.i.1983
Dhar	Fulgawri, Gaurpur	Bhil, Bhilalas	9-10.i.1983
Indore	Budhipura	Bhil	11.i.1983
W. Nimar (Khargaon)	Ahilyapura	Bhil	13.i.1983
E. Nimar (Khandawa)	Baisawa, Chaigaon, Dad- wara, Dhakochi, Jogibera	Bhil, Bhilalas, Gond, Korku	14-16.i.1983
Betul	Baretha, Bundala, Dehar- gaon, Kheri, Shahpur	Gond, Korku	18-19.i.1983
Hoshangabad	Chakar, Gogharpura, Ochapurgaon, Timdukhera	Gond, Korku, Mawasi	22-23.i.1983
Dewas	Kuapanigaon, Parchiaya- gaon, Pujapura, Ratatalai	Bhilalas, Korku	27 i.1983
Raisen	Bhutpalasigaon, Gautam- pura Colony, Kiratnagar, Leemdhana, Mayus Khurd, Nayapura	Gond, Keer, Korku	1-4.ii.1983
Narasimha- pur	Baretha, Karakbel, Mug- wani, Nooriagaon, Rosra, Sutegaon	Gond, Kol, Mudia, Pardhan	7-9.ii.1983
Chindwara	Burrah, Chattiborena- gaon, Gulchigaon, Karaboh, Mehgaon Khurd, Puwagaon	Gond, Mawasi, Pardhan	10-13.ii.1983
Seoni	Chapara, Kurai, Mohgaon, Sukhtara	Gond, Pardhan	16-17.ii.1983
Jabalpur	Barella, Richai, Kohilas, Sakra, Umariagaon	Bhumiya, Gond, Kol, Pardhan	19-24.ii.1983
Mandla	Barikheri, Kamta, Kurameli, Rata	Gond, Kol	26-28.ii.1983
Shahdol	Amarkantak, Beharia, Bikrampur, Choradih, Bartarh, Kishwahi	Baiga, Gond, Kawar, Kol, Panika, Pao	3-5.iii.1983
Balaghat	Halba Tola, Hirapurgaon, Kanhatola, Kirnapur	Baiga, Gond, Halba	7-8.iii.1983
Durg	Limora, Sakragaon	Gond, Halba	10.iii.1983
Bastar	Aderagaon, Deogaon, Kakalgurgaon, Kanha- purigaon, Nelbargaon, Rodegaon	Bhattra, Dhurwa, Gond, Halba, Madia, Muria, Pardhi	13-18.iii. 1983

Contd. 1

Districts surveyed	Localities surveyed	Name of tribes	Date
1	2	3	4
Raipur	Barari, Gullu, Mudpur, Padaritalgaon, Sakarwara	Dewar, Gond, Kamar, Pardhi	20-23.iii. 1983
Bilaspur	Banbagha, Makhanpur	Dhanwar, Gond, Khairwar, Oraon, Saur	25.iii.1983
Rajgarh	Ganeshpurgaon, Jhalla	Binjhwar, Kondh, Korwa, Oraon	27-28.iii. 1983
Surguja	Dhanwargaon, Jigdi, Sitapur	Baiga, Gond, Kavar, Nagesia, Oraon	30.iii. to 2.iv.1983

Bhopal, Damoh, Sagar and Rajnandan districts were not surveyed as the tribals are sparsely distributed there. According to Ali (1973) there are 58 classified tribes in Madhya Pradesh, of which we have come across only 39tribes.

For the second survey Orissa was selected. According to 1981 census, its population is 26.37 million, of which 5.92 million are tribals. It means that 22.43% of the population is tribals. It was surveyed from 5th August to 25th September 1983 and the details are given below in the order of dates of survey as in the case of Madhya Pradesh :

Table 2. Details of Orissa Survey

Districts surveyed	Localities surveyed	Name of tribes	Date
1	2	3	4
Mayurbhanj	Balidia, Besarpani, Kenduva, Khadia, Thmadihi	Bathudi, Bhuiya, Bhumij, Kharia, Lodha, Mankirdia, Santal	8-9.viii.1983
Keonjhar	Ausanpat, Baniasahi, Dawrg, Gondbarai, Guptaganga, Lakhminarayanapur, Pukarapani, Ranki, Srirampur	Bathudi, Bhuiya, Bhumij, Gond, Juang, Kolha, Mankirdia, Munda, Santal, Sounti	11-13.viii. 1983

Cont. 2

1	2	3	4
Sundargarh	Baregad, Belsora, Maheshdihi, Pandiripani, Sagbahai, Timadihi	Bhuiya, Gond, Kawar, Kharia, Kisan, Korwa, Munda, Oraon	16-19.viii. 1983
Sambalpur	Kishipali, Lahamani	Bhuiya, Gond, Mirdhas, Munda, Oraon	22-24.viii. 1983
Dhenkanal	Deogaon, Nimidha, Pandarbharania	Gond, Matya	26-28.viii. 1983
Baudhkhond- mals (Phulwani)	Dalpad, Gailbed, Landibandh, Ranipathra	Gond, Khond	30-31.viii. 1983
Bolangir	Bhejipadar, Deogaon, Kharsalbanji, Kulia Bahal, Lankari, Photanuda, Pandel	Gond, Khond, Mirdhas, Saora	2-4.ix.1983
Kalahandi	Kamthana, Korlakot, Uditnarainpur	Gond, Khond, Saber	6-7.ix.1983
Koraput	Charagaon, Didayi, Durkagutha, Gadipur, Malimoda, Marla, Mudligora	Bhuiya, Didayi, Gadaba, Kondh, Matya, Paroja	9-11.ix.1983
Puri	Khurd, Muragarh	Gond	18-22.xi.1983
Balasore	Bairamgari, Chandipur, Hidiagaon, Talwari	Bhumij, Kolha, Santal	24.ix.1983

Of the thirteen districts of Orissa, in Cuttack and Ganjam the tribals are sparsely distributed and the party could not collect worthwhile data. In the constitution of India 62 Scheduled Tribes have been recognised from the state, of which we have come across only 25 tribes.

DATA

The ethnozoological survey has revealed that there are 894 applications of drugs derived from various animals in Madhya Pradesh and 234 applications in Orissa. Of these, those that have wider applications are given below in tabular form ;

TABLE 3.—Uses of animal products as medicine in Madhya Pradesh tribal area.

Name of animal	Disease (s) for which used	Mode of application	Name of tribe (s) which uses. District (s) to which they belong are given in bracket
1	2	3	4
1. MAMMALS			
Barasinga <i>Cervus duvaceli</i> Cuvier	Pains in general, especially ribs pain	Antler powdered and applied. Powdered antler dissolved in water, oil, milk or cowdung and applied as ointment.	Bhand (Satna) ; Bhil (Indore and Khandawa) ; Bhilalas (Sehore, Shajapur and Dhar) ; Bhumiya (Chatarpur, Panna and Satna) ; Gond (Betul, Bhind, Chatarpur, Hoshangabad, Khandawa, Panna, Sidhi and Vidisha) ; Khairwar (Chatarpur and Panna) ; Kol (Panna and Satna) ; Korku (Betul, Bhind, Hoshangabad and Raisen) ; Mawasi (Hoshangabad and Satna) ; Meena (Vidisha) ; Pahalwan (Satna) ; Saur (Chatarpur, Panna and Tikamgarh) ; Seharua (Guna, Morena, Gwalior, Rajgarh and Vidisha) ; Baiga (Shahdol) ; Bhil (Khandawa, Mansaur and Ratlam) ; Bhilalas (Guna, Jhabua, Khandawa, Rajgarh and Sehore) ; Bhumiya (Jabalpur) ; Binjhwar (Rajgarh) ; Gond (Khandawa, Panna, Raisen, Satna, Shahdol and Vidisha) ; Gond Muslims (Rewa) ; Kawar (Shahdol) ; Khairwar (Chatarpur) ; Keer (Raisen) ; Kol (Jabalpur and Mandla) ; Kondh (Rajgarh) ; Korku (Bhind, Hoshangabad and Raisen) ; Mawasi (Chindwara) ; Meena (Vidisha) ; Panika (Shahdol) ; Seharua (Guna, Gwalior and Vidisha)
Goat <i>Capra</i> sp.	Night blindness	Liver consumed. Liver dried, powdered and dissolved in water, ghee, etc. to use as eye ointment. Liver juice applied as eye ointment.	

1	2	3	4
„	Tuberculosis	Flesh or milk consumed. Urine orally administered. Droppings roasted on fire and fumes passed into a closed room where the patient is made to lie. Goat tied by the bed side of the patient (it is said that the smell of excreta is helpful in cure).	Bhil (Khandawa); Bhilalas (Dewas and Khandawa); Bhumiya (Jabalpur and Panna); Gond (Balaghat, Betul, Bilaspur, Durg, Jabalpur, Mandla, Raisen and Seoni); Halba (Balaghat, Bastar and Durg); Kol (Jabalpur, Mandla and Shahdol); Korku (Hoshangabad and Raisen); Korwa (Rajgarh); Oraon (Bilaspur and Surguja); Panika (Shahdol); Pardhan (Seoni)
„	Injury, sprain, pains including rheumatic pain, back ache, etc.	Droppings used in different ways: dried, burnt, dissolved in water and applied; burnt and fumes passed over affected parts, etc.	Bhumiya (Jabalpur); Gond (Shahdol, Seoni, Betul, Hoshangabad, Balaghat, and Jabalpur); Halba (Balaghat); Mawasi (Chindwara); Nagesia (Surguja); Pao (Shahdol); Pardhan (Chindwara)
Porcupine <i>Hystrix indica</i> Kerr	Cough, cold & allied diseases	Intestine administered in different ways. Fat consumed, or massaged, or both simultaneously done.	Biar (Sidhi); Dhurwa (Bastar); Gond (Bhind, Chindwara, Mandla, Narasimhapur, Raisen, Tikamgarh and Vidisha); Keer (Raisen); Khairwar (Chatarpur and Sidhi); Kol (Narasimhapur); Kondh (Raigarh); Korku (Bhind and Raisen); Mawasi (Hoshangabad); Meena (Vidisha); Panika (Shahdol); Pao (Satna); Pardhan (Seoni); Saur (Tikamgarh); Seharua (Datia and Gwalior)

Contd. 3

1	2	3	4
Sambar <i>Cervus unicolor</i> Kerr	Pains in general : ribs pain, chest pain and headache	Antler powdered, dissolved in water, oil, hen's egg, honey or cow's urine, etc. and applied as ointment.	Baiga (Balaghat and Shahdol); Bhilalas (Dewas, Jhabua and Khandawa); Bhumiya (Chatarpur and Jabalpur); Binjwar (Raipur); Dewar (Raipur); Dhanwar (Bilaspur); Dhurwa (Bastar); Gond (Balaghat, Bastar, Bilaspur, Chindwara, Jabalpur, Mandla, Narasimhapur, Raisen, Sehore, Seoni, Shahdol and Tikamgarh); Halba (Balaghat and Durg); Kamar (Raipur); Kawar (Shahdol); Keer (Raisen); Khairwar (Bilaspur); Kol (Mandla and Narasimhapur); Kondh (Raigarh); Korku (Dewas, Raisen and Sehore); Mawasi (Chindwara and Hoshangabad); Mudia (Narasimhapur); Oraon (Raisen, Sehore and Surguja); Panika (Shahdol and Sidhi); Pao (Shahdol); Pardhan (Chindwara, Jabalpur and Narasimhapur); Seharua (Sidhi)

1	2	3	4
Peacock <i>Pao cristatus</i> L.	Ear complaints	<p data-bbox="989 272 1182 313">2. BIRDS</p> <p data-bbox="869 329 1309 488">Feather roasted, powdered, dissolved in mustard oil or water and used as ear drops.</p> <p data-bbox="869 488 1309 610">Feather roasted, powdered, dissolved in honey and orally administered.</p> <p data-bbox="869 610 1309 862">Bone or lower part of foot powdered and dissolved in water, oil, breast milk, or lemon juice and used as ear drops.</p> <p data-bbox="869 862 1309 1036">Bone of foot boiled in oil and used as ear drops (more commonly in mustard oil).</p>	<p data-bbox="1358 329 2174 1458">Baiga (Balaghat, Shahdol, Sidhi and Surguja) ; Bhand (Satna) ; Bhattra (Bastar and Indore) ; Bhil (Dhar, Jhabua and Ratlam) ; Bhilalas (Dewas, Dhar, Guna, Raigarh, Sehore and Ujjain) ; Bhumiya (Jabalpur, Panna and Satna) ; Binjhar (Raigarh) ; Dewar (Raipur) ; Dhanwar (Bilaspur) ; Dhurwa (Bastar) ; Gond (Balaghat, Betul, Bhind, Bilaspur, Chatarpur, Chindwara, Durg, Hoshangabad, Jabalpur, Khandawa, Mandla, Narasimhapur, Panna, Raipur, Raisen, Satna, Sehore, Seoni, Shahdol, Sidhi, Surguja, Tikamgarh and Vidisha) ; Halba (Balaghat and Durg) ; Kamar (Raipur) ; Kavar (Shahdol and Surguja) ; Keer (Raisen) ; Khairwar (Chatarpur and Panna) ; Kol (Jabalpur, Mandla, Narasimhapur, Panna, Satna and Shahdol) ; Kondh (Raigarh) ; Korku (Betul, Bhind, Dewas, Hoshangabad, Raisen and Sehore) ; Korwa (Raigarh) ; Mawasi (Hoshangabad and Satna) ; Meena (Vidisha) ; Mudia (Narasimhapur) ; Nagesia (Surguja) ; Oraon (Raigarh and Surguja) ; Panika (Shahdol) ; Pahalwan or Nat (Panna and Satna) ; Pao (Satna) ; Pardhan (Chindwara, Jabalpur and Seoni) ; Pardhi (Raipur) ; Saur (Bilaspur and Tikamgarh) ; Seharia (Datia, Guna, Gwalior, Morena, Rajgarh, Shivpuri and Vidisha) ; Sonr (Panna)</p>

1	2	3	4
„	Vomiting	Feather roasted, powdered, dissolved in water, milk, honey, ghee, etc., sometimes to which is added pepper, cardamum powder, or onion, etc. and taken.	Baiga (Shahdol) ; Bhumiya (Jabalpur) ; Binjhar (Raigarh) ; Dewar (Raipur) ; Gond (Bilaspur, Chindwara, Durg, Jabalpur, Seoni and Shahdol) ; Halba (Bastar and Durg) ; Kamar (Raipur) ; Keer (Raisen) ; Khairwar (Bilaspur) ; Kondh (Raigarh) ; Korwa (Raigarh) ; Nagesia (Surguja) ; Oraon (Surguja) ; Panika (Shahdol) ; Pao (Shahdol) ; Pardhan (Chindwara and Seoni) ; Pardhi (Bastar)
Pigeon <i>Columba livia</i> Gmelin	Paralysis	Blood orally administered. Blood massaged on affected part. Blood massaged along with flesh consumed. Blood and flesh consumed. Juice from flesh extracted and consumed. Feather used to fan on affected part.	Baiga (Shahdol) ; Bhattra (Bastar) ; Bhil (Dhar, Indore, Jhabua, Khandawa, Ratlam and W. Nimar) ; Bhilalas (Dewas, Dhar, Khandawa, Raigarh, Sehore, Seoni, Shajapur and Ujjain) ; Bhumiya (Chatarpur) ; Binjhar (Raigarh) ; Dhanwar (Bilaspur) ; Gond (Balaghat, Bastar, Betul, Bhind, Bilaspur, Chatarpur, Chindwara, Durg, Jabalpur, Khandawa, Mandla, Narasimhapur, Panna, Raipur, Raisen, Sehore, Seoni, Shahdol and Vidisha) ; Halba (Balaghat, Bastar and Durg) ; Kawar (Raipur and Shahdol) ; Keer (Raisen) ; Khairwar (Bilaspur, Chatarpur and Panna) ; Kol (Jabalpur, Mandla, Narasimhapur and Shahdol) ; Korku (Betul, Dewas, Hoshangabad, Khandawa, Raisen and Sehore) ; Korwa (Raigarh) ; Mawasi (Hoshangabad) ; Meena (Vidisha) ; Mudia (Narasimhapur) ; Nat (Panna) ; Oraon (Bilaspur and Raigarh) ; Panika (Shahdol) ; Pao (Shahdol) ; Pardhan (Chindwara, Narasimhapur and Seoni) ; Pardhi (Bastar and Raipur) ; Saur (Bilaspur and Chatarpur) ; Seharla (Gwalior, Satna, Shivpuri and Vidisha)

1	2	3	4
3. REPTILES			
Monitor Lizard <i>Varanus bengalensis</i> (Daudin)	Pain and rheumatic complaints	Fat massaged on affected part. Fat mixed with 'ajwan' (<i>Trachyspermum ammi</i>) and orally administered.	Bhand (Satna); Bhil (Ratlam); Bhilalas (Sehore); Bhumiya (Chatarpur, Panna and Satna); Binjhwar (Raigarh); Gond (Bilaspur, Betul, Chatarpur, Panna, Satna and Tikamgarh); Khairwar (Chatarpur and Panna); Kol (Panna); Korku (Raisen); Korwa (Raigarh); Nagesia (Surguja); Oraon (Bilaspur and Raigarh); Pao (Satna); Pardhan (Chindwara); Saur (Chatarpur and Tikamgarh); Seharla (Gwalior); Sonr (Panna)
„	Swelling of neck in bulls (Veterinary use)	Fat massaged on affected part. Fat mixed with common salt and applied on affected part. Skin roasted, mixed with its oil and applied on affected part.	Baiga (Surguja); Bhil (Dhar, Khandawa and W. Nimar); Bhilalas (Jhabua and Khandawa); Dewar (Raipur); Dhanwar (Bilaspur); Gond (Betul, Bhind, Bilaspur, Chindwara, Hoshangabad, Jabalpur, Khandawa, Mandla, Narasimhapur, Raipur, Raisen

Contd. 3

1	2	3	4
Tortoise and turtle <i>Geochelone</i> sp. and <i>Chitra</i> sp.	Piles and allied complaints	<p>Fat mixed with the fat of wild boar and massaged.</p> <p>Head kept in contact with rectum. Head ground in water and applied. Head dried, roasted and orally administered. Head crushed in castor oil and applied externally. Carapace kept in contact. Carapace ground in water and applied. Carapace roasted on bonfire and fumes passed on anal region. Neck dried, ground in water and applied</p>	<p>and Surguja); Kamar (Raipur); Kawar (Shahdol); Keer (Raisen); Khairwar (Bilaspur); Korku (Bhind, Dewas and Hoshangabad); Mawasi (Chindwara and Hoshangabad); Mudia (Narasimhapur); Nagesia (Surguja); Nat (Panna); Oraon (Bilaspur and Surguja); Pardhan (Chindwara and Seoni); Pardhi (Raipur)</p> <p>Binjhar (Raigarh); Dewar (Raipur); Dhanwar (Bilaspur); Gond (Bastar, Bilaspur, Mandla, Seoni and Raipur); Halba (Balaghat); Kamar (Raipur); Khairwar (Bilaspur); Kol (Jabalpur and Mandla); Kondh (Raigarh); Korwa (Raigarh); Mawasi (Hoshangabad); Nagesia (Surguja); Oraon (Bilaspur and Raigarh); Panika (Shahdol); Pardhi (Bastar); Pardhan (Seoni); Saur (Bilaspur)</p>

1	2	3	4
4. MOLLUSCS			
Cowrie (Not specific)	Ear complaints	<p>Shell roasted, powdered and dropped into ear.</p> <p>Shell powder mixed with turmeric powder or vermillion and dropped into ear.</p> <p>Shell roasted, powdered, dissolved in lemon juice with turmeric powder or in any oil, milk, breast milk, etc., and used as ear drops.</p> <p>Shell powdered, dissolved in water, milk, breast milk or mustard oil and used as ear drops.</p> <p>Shell powder mixed with 'babul' flower and dissolved in lime juice and used as ear drops.</p>	<p>Bhil (Jhabua, Khandawa and Ratlam) ; Bhilalas (Dewas, Guna and Khandawa) ; Bhumiya (Chatarpur, Jabalpur, Panna and Satna) ; Biar (Sidhi) ; Binjhar (Raigarh) ; Dewar (Raipur) ; Dhanwar (Bilaspur) ; Gond (Betul, Bilaspur, Bhind, Chatarpur, Chindwara, Durg, Jabalpur, Panna, Raipur, Satna, Seoni, Sidhi, Surguja, Tikamgarh and Vidisha) ; Halba (Balaghat and Durg) ; Kamar (Raipur) ; Kavar (Shahdol) ; Keer (Raisen) ; Khairwar (Bilaspur, Chatarpur, Panna and Sidhi) ; Kol (Jhabua, Mandla, Narasimhapur, Panna, Satna and Sidhi) ; Kondh (Raigarh) ; Korku (Betul, Bhind and Raisen) ; Korwa (Raigarh) ; Mawasi (Hoshangabad) ; Meena (Vidisha) ; Oraon (Bilaspur) ; Pardhan (Jabalpur and Narasimhapur) ; Pao (Satna) ; Pardhi (Raipur) ; Panika (Shahdol) ; Saur (Bilaspur, Chatarpur and Tikamgarh) ; Seharla (Guna and Gwalior)</p>

1	2	3	4
5. CRUSTACEANS			
Crab <i>Parateloehusa</i> sp.	Diseases pertaining to liver, including jaundice	Flesh cooked and consumed. Flesh crushed in water and orally administered. Juice extracted by boiling flesh in water and taken. Juice from flesh extracted and orally administered.	Bhil (Khandawa); Bhilalas (Rajgarh and Shajapur); Bhumiya (Chatarpur and Jabal- pur); Dewar (Raipur); Gond (Bhind, Chatarpur, Khandawa and Tikamgarh); Khairwar (Chatarpur and Panna); Kondh (Raigarh); Korwa (Raigarh); Nat (Panna); Nagesia (Surguja); Oraon (Raigarh and Surguja); Panika (Shahdol); Pardhan (Jabal- pur); Saur (Tikamgarh); Seharlia (Datia, Gwalior, Raigarh and Shivpuri)
„	Cough, cold, fever and breathing trouble	Flesh cooked and consumed. Flesh roasted, dissolved in honey and taken. Flesh roasted, powdered, dissolved in water and given in betel to children. Flesh crushed in water and applied and side by side consumed. Juice from flesh orally administered.	Bhil (Indore, Jhabua and Ratlam); Bhilalas (Dhar and Ujjain); Bhumiya (Jabalpur); Binjhar (Raigarh); Dhurwa (Bastar); Gond (Bastar, Bilaspur, Chatarpur, Durg, Hoshanga- bad, Jabalpur, Narasimhapur, Panna, Raipur, Tikamgarh and Surguja); Halba (Balaghat and Durg); Kamar (Raipur); Kawar (Shahdol); Keer (Raisen); Khairwar (Bilas- pur); Kol (Mandla and Panna); Mawasi (Chindwara); Muria (Bastar); Oraon (Bilaspur and Raigarh); Panika (Shahdol); Pardhan (Chindwara and Seoni); Pardhi (Bastar); Seharlia (Guna)

1	2	3	4
6. ANNELIDS			
Earthworm <i>Pheretima</i> sp.	To increase lactation	<p>Flesh as such or dried in the sun or roasted and orally administered. Flesh dried mixed with cane sugar or food and taken.</p> <p>Flesh mixed with broken wheat or milk and consumed.</p> <p>Flesh kept inside the mouth of fish and the roasted fish consumed.</p> <p>Flesh taken along with betel.</p>	<p>Baiga (Balaghat and Shahdol) ; Bhil (Khandawa) ; Bhilalas (Dewas, Dhar, Guna, Jhabua, Rajgarh and Sehore) ; Bhumiya (Chatarpur) ; Binjhwar (Raigarh) ; Dewar (Raipur) ; Dhanwar (Bilaspur) ; Dhurwa (Bastar) ; Gond (Balaghat, Bastar, Bilaspur, Betul, Chindwara, Durg, Hoshangabad, Khandawa, Mandla, Narasimhapur, Raipur, Raisen, Seoni and Vidisha) ; Halba (Balaghat and Durg) ; Kawar (Shahdol) ; Khairwar (Bilaspur and Panna) ; Kol (Narasimhapur and Shahdol) ; Kondh (Raigarh) ; Korku (Betul, Hoshangabad, Raisen and Sehore) ; Korwa (Raigarh) ; Meena (Vidisha) ; Mudia (Narasimhapur) ; Nagesia (Surguja) ; Nat (Panna) ; Oraon (Surguja) ; Panika (Shahdol) ; Pardhan (Seoni) ; Pardhi (Bastar) ; Seharia (Guna, Morena and Rajgarh)</p>

TABLE 4. Summary of animal uses for medicine in Madhya Pradesh tribal area.

<i>Name of animal</i>	<i>Disease (s)</i>	<i>No. of Tribes</i>	<i>No. of Districts</i>
Barasinga	Pains in general , especially ribs pain	13	19
Goat	Night blindness	17	21
„	Tuberculosis	11	16
„	Injury, sprain, pains, including rheumatic pain, back ache, etc.	7	8
Porcupine	Cough, cold and allied diseases	16	17
Sambar	Pains in general, ribs pain, chest pain and head ache	23	22
Peacock	Ear complaints	33	39
„	Vomiting	17	11
Pigeon	Paralysis	26	33
Monitor Lizard	Pain and rheumatic complaints	17	12
„	Swelling of neck in bulls	18	20
Tortoise and turtle	Piles and allied complaints	17	12
Cowrie	Ear complaints	26	28
Crab	Diseases pertaining to liver including jaundice	15	15
„	Cough, cold, fever and breathing trouble	19	24
Earthworm	To increase lactation	25	26

Other medicinal uses

<i>Name of animal</i>	<i>Part used</i>	<i>Disease (s) for which it is used</i>
1	2	3
Barasinga	Antlers	Temperature, headache, tonsillitis, cough and cold, pneumonia, eye complaints
Goat	Liver	Liver enlargement, general weakness, whooping cough, spleen trouble, cough and cold
	Droppings	Swelling of stomach, body, etc., nasal bleeding, scorpion bite, wounds, fever
	Urine	Liver complaints, rickets, boils on head, hair fall, itching, skin diseases, cough and cold, pneumonia, breathing trouble, swellings, weeping, loss of appetite
Porcupine	Blood	Breathing trouble
	Flesh	Excess urination
	Undigested faecal matter	Stomach pain
	Intestine	Blood purification, malaria, ulcer, general weakness, body pain, cholera, safe and timely delivery, stomach pain, stomach bulging, measles
	Fat	Swellings and pain, night blindness, rheumatic pain
	Skin	Baldness
	Spine	Ribs pain, asthmatic complaints
Sambar	Fat	Piles, cracks on the foot, swelling on the neck of domestic animals

Contd. 4

1	2	3
	Antler	Ear complaints, cough and cold, pneumonia, breathing trouble, cyst in breast of ladies, dysentery, to remove pus from boil, ascariasis, as a general tonic for improvement of health
Peacock	Feather	Stomach pain, body ache, small pox, chicken pox, fever, neurotic complaints, scorpion bite, delirium, cough and cold, whooping cough, breathing trouble
	Lower part of foot	Ribs pain, rheumatic pain, schiatic pain, swellings
	Bone	Breathing trouble, cuts, wounds, muscular pain, eye trouble
	Fat	For joining broken bones
Pigeon	Blood	Asthma, tuberculosis, rheumatic and muscular pains, breathing trouble, to lower the rate of heart beat
	Flesh	Cough, breathing trouble, tuberculosis, rheumatic complaints
	Fat	Rheumatic complaints
	Excreta	Menstrual disorders, breathing trouble, asthma, rickets
Monitor Lizard	Fat	Cough, cold, swellings, boils, wounds, pneumonia, fever, rickets, general weakness, eye complaints, scorpion bite, eczema

Contd. 4

1	2	3
	Stomach and gut contents	Cold, fever, pneumonia
	Lungs	Cold and fever
Tortoise and Turtles	Fat	Boils, rheumatic complaints
	Head	Loose motion, rickets
	Carapace	Minor injuries and wounds, intestinal parasites, eye troubles, boils, swellings, rickets, enlargement of stomach, itching, blood in cough, nasal bleeding, as antiseptic, burns, neurotic complaints, pain in back bone, swelling in the neck of bull, paralysis and general weakness in cattle, for septics in bulls
	Skin	Itching
	Blood and flesh	Sexual weakness in male
	Flesh	Tuberculosis
Cowrie	Shell	Cyst, cough, cold and fever, wounds, cataract, red eyes
Crab	Flesh	Tuberculosis, measles, general weakness, swelling of body, ear complaints, pus formation in finger, for broken leg, lethargy, body ache, rheumatic pain, rickets, stomach pain
	Fat	Burns
	Flesh and eggs	To increase lactation
Earthworm	Flesh	To prevent unborn baby from diseases, general weakness, giddiness, cough and cold, rickets, parasitic infection, wounds, snake bite, loose motion, ear complaints, jaundice, worms trouble

TABLE 5. Uses of animal products as medicine in Orissa tribale area.

24	Name of animal	Disease(s) for which used	Mode of application	Name of tribe(s) which uses. District(s) to which they belong are given in brackets
	1	2	3	4
			1. MAMMALS	
	Bat Not specific	Asthma	Fat massaged on chest. Fat orally administered. Flesh fried in ghee and consumed. Flesh mixed with pepper, cooked and consumed.	Bathudi (Keonjhar) ; Bhuiya (Keonjhar and Mayurbhanj) ; Bhumij (Keonjhar) ; Gond (Bolangir, Dhenkanal, Kalahandi, Keonjhar, Phulbani and Sundargarh) ; Juang (Keonjhar) , Kavar (Sundargarh) ; Khond (Phulbani) ; Kolha (Keonjhar) ; Kondh (Kalahandi) ; Matya (Dhenkanal) ; Mirdhas (Bolangir) ; Munda (Sambalpur and Sundargarh)
	”	Rheumatic pain	Fat massaged. Flesh orally administered. Liver juice orally administered.	Bhuiya (Sambalpur and Sundargarh) ; Bhumij (Balasore) ; Didayi (Koraput) ; Gadaba (Koraput) ; Gond (Bolangir, Dhenkanal, Phulbani, Puri, Sambalpur and Sundargarh) ; Kavar (Sundargarh) ; Kharia (Sundargarh) ; Khond (Bolangir) ; Kolha (Balasore) ; Kondh (Koraput) ; Korwa (Sundargarh) ; Matya (Koraput) ; Mirdhas (Bolangir and Sambalpur) ; Munda (Sambalpur and Sundargarh) ; Oraon (Sambalpur and Sundargarh) ; Paroja (Koraput) ; Sabar (Kalahandi) ; Santal (Balasore and Keonjhar) ; Saora (Bolangir) ; Saunti (Keonjhar)

Contd. 5

1	2	3	4
Goat <i>Capra</i> sp.	Tuberculosis	Milk taken in empty stomach. Urine and excreta smelled. Bile or blood orally administered. Liver consumed. Urine orally administered or along with its massage in some cases.	Bhuiya (Keonjhar, Mayurbhanj and Sambalpur) ; Didayi (Koraput) ; Gadaba (Koraput) ; Gond (Dhenkanal, Kalahandi, Puri, Sambalpur and Sundargarh) ; Kawar (Sundargarh) ; Khond (Phulbani) ; Kolha (Balasore and Keonjhar) ; Kondh (Koraput) ; Korwa (Sundargarh) ; Matya (Koraput) ; Mirdhas (Bolangir and Sambalpur) ; Munda (Sambalpur) ; Paroja (Koraput) ; Sabar (Kalahandi) ; Santal (Balasore) ; Saora (Bolangir).
Tiger <i>Panthera tigris</i> (L.)	Rheumatic pain	Fat or oil extracted from fat massaged. Tongue taken alongwith betel.	Bathudi (Keonjhar) ; Bhuiya (Keonjhar and Sambalpur) ; Bhumij (Balasore and Keonjhar) ; Didayi (Koraput) ; Gond (Bolangir, Dhenkanal, Kalahandi, Keonjhar, Phulbani and Sambalpur) ; Juang (Keonjhar) ; Khond (Bolangir, Kalahandi and Phulbani) ; Kolha (Balasore) ; Kondh (Koraput) ; Matya (Dhenkanal and Koraput) ; Mirdhas (Bolangir) ; Munda (Sambalpur) ; Paroja (Koraput) ; Sabar (Kalahandi) ; Santal (Balasore and Keonjhar) ; Saora (Bolangir) ; Saunti (Keonjhar)
Wild boar <i>Sus scrofa</i> L.	Rheumatic pain	Fat massage.	Bathudi (Mayurbhanj) ; Bhuiya (Sambalpur) ; Bhumij (Balasore and Mayurbhanj) ; Gadaba (Koraput) ; Gond (Puri, Sambalpur and Sundargarh) ; Kharia (Sundargarh) ; Kondh (Phulbani) ; Kolha (Balasore) ; Kondh (Koraput) ; Lodha (Mayurbhanj) ; Matya (Dhenkanal) ; Munda (Sambalpur) ; Oraon (Sambalpur) ; Paroja (Koraput) ; Santal (Balasore and Mayurbhanj) ; Saunti (Keonjhar)

Contd. 5

1	2	3	4
2. BIRDS			
Malabar Pied Hornbill <i>Anthracoceros coronatus</i> (Boddaert)	Rheumatic pain	Oil extracted from fat and massaged. Flesh cooked and taken.	Bathudi (Keonjhar and Mayurbhanj) ; Bhuiya (Mayurbhanj, Sambalpur and Sundargarh) ; Bhumij (Balasore and Keonjhar) ; Didayi (Koraput) ; Gadaba (Koraput) ; Gond (Bolangir, Kalahandi, Keonjhar ; Puri, Sambalpur and Sundargarh) ; Juang (Keon- jhar) ; Kawar (Sundargarh) ; Kharia (Sundar- garh) ; Khond (Bolangir and Phulbani) ; Kolha (Balasore, Bolangir and Keonjhar) ; Kondh (Koraput) ; Lodha (Mayurbhanj) ; Matya (Koraput) ; Mirdhas (Bolangir and Sambalpur) ; Munda (Sambalpur) ; Paroja (Koraput) ; Sabar (Kalahandi) ; Santal (Bolangir, Keonjhar and Mayurbhanj) ; Saora (Bolangir) ; Sounti (Keonjhar)
Peacock <i>Pao cristatus</i> L.	Ear complaints	Foot bone boiled in mustard oil or crushed in water and used as ear drops. Egg broken and contents used as ear drops.	Bathudi (Mayurbhanj) ; Bhuiya (Keonjhar) ; Gond (Kalahandi and Keonjhar) ; Kharia (Sundargarh) ; Khond (Bolangir) ; Lodha (Mayurbhanj) ; Matya (Dhenkanal) ; Mirdhas (Bolangir) ; Paroja (Koraput) ; Santal (Mayurbhanj)

1	2	3	4
3. REPTILES			
Spiny-tailed Lizard <i>Uromastix hardwicki</i> Grey	Rheumatic pain	Flesh orally taken. Juice from flesh extracted and orally administered. Oil extracted from fat massaged.	Bathudi (Keonjhar) ; Bhuiya (Sambalpur and Sundargarh) ; Bhumij (Balasore) ; Didayi (Koraput) ; Gadaba (Koraput) ; Gond (Puri, Sambalpur and Sundargarh) ; Kharia (Sundargarh) ; Kolha (Balasore and Keonjhar) ; Kondh (Koraput) ; Korwa (Sundargarh) ; Matya (Koraput) ; Mirdhas (Sambalpur) ; Munda (Sambalpur) ; Oraon (Sundargarh) ; Santal (Balasore) ; Sounti (Keonjhar)
4. ANNELIDS			
Earthworm <i>Pheretima</i> sp.	To increase lactation	Flesh fried in ghee and orally administered. Flesh crushed in water and taken.	Bathudi (Keonjhar and Mayurbhanj) ; Bhuiya (Keonjhar and Sambalpur) ; Bhumij (Balasore and Keonjhar) ; Didayi (Koraput) ; Gadaba (Koraput) ; Gond (Bolangir, Dhenkanal, Kalahandi, Keonjhar, Koraput and Puri) ; Kharia (Sundargarh) ; Khond (Bolangir) ; Kolha (Balasore) ; Kondh (Koraput) ; Matya (Dhenkanal and Koraput) ; Mirdhas (Bolangir) ; Oraon (Sundargarh) ; Paroja (Koraput) ; Santal (Balasore and Mayurbhanj) , Saora (Bolangir) ; Sounti (Keonjhar)

TABLE 6. Summary of animal uses for medicine in Orissa tribal area.

Name of animal	Disease(s)	No. of Tribes	No. of Districts
Bat	Asthma	12	9
„	Rheumatic pain	20	10
Goat	Tuberculosis	16	11
Tiger	Rheumatic pain	17	8
Wild boar	Rheumatic pain	16	9
Malabar Pied Hornbill	Rheumatic pain	21	10
Peacock	Ear complaints	10	7
Spiny-tailed Lizard	Rheumatic pain	16	6
Earthworm	To increase lactation	17	11

Other Medicinal Uses

Name of animal	Part used	Disease(s) for which it is used
1	2	3
Bat	Blood	Ear complaints
	Fat	Breathing trouble, rickets
	Flesh	Liver trouble, nasal bleeding, oral bleeding, rickets, tuberculosis
Goat	Ghee	Cough and cold
	Urine	Purification of blood, itching, cuts and wounds
	Bile	Fever, night blindness
	Fat	Burns
	Flesh	Anaemia
	Liver	Night blindness
	Skin	Blood dysentery
	Blood	Diarrhoea

Contd. 6

1	2	3
Tiger	Tongue	Appendicitis, asthma, to reduce enlargement of spleen
	Fat	Paralysis
	Milk	To increase lactation
Wild boar	Fat	Small pox, burns
	Teeth	Boils
	Flesh	General weakness
Malabar Pied Hornbill	Flesh	Paralysis
	Head	Nasal bleeding
Peacock	Feather	Vomiting, cough, tuberculosis, dysentery
	Bone of foot	Boils, burns
	Flesh	Vomiting
	Liver	Cough, cold and fever
Uromastix	Fat	Impotency in male, scorpion bite, burns, conjunctivitis, skin diseases
	Flesh	Head ache, muscular pain, joint pain, impotency of male, asthma
	Head	Swelling in the neck of bulls
Earthworm	Excreta	Scorpion bite
	Flesh	Indigestion, roundworm, spleen swelling

OTHER USES

Flesh of these animals are used as food by most of the tribals. Goat milk is drunk by all. Skins of barasinga, goat, tiger, monitor lizard, etc. are widely used for making sandals, vessels for fetching water, etc. A number of them like peacock, pigeon, sambar, barasinga, etc. are kept as pets. Among these animals goat is the most widely used one for sacrifice. For entertainment, goat fights and pigeon fights are often arranged.

INDUSTRIAL USES

It is only appropriate to point out the important industrial uses of these animals to show how the rearing of such animals will be beneficial to both tribals as well as others.

Food : Goat milk is commonly drunk ; the goat is called the poor man's cow. Meat of barasinga, bat, goat, porcupine, sambar, wild boar, peacock, pigeon, monitor lizard, tortoise, turtle and crab is eaten. Of these, the meat of sambar, turtle, wild boar and crab is known for its delicacy. Venison or deer meat is easily digested and is recommended for invalids. Though the nutritive value of crab meat is not as high as that of fish, it is considered to be of unique dietary and medicinal value. The lard of wild boar is used as cooking medium.

Leather : The skin of goat, sambar and monitor lizard is widely used in leather industry. Turtle flippers are also used to a limited extent. Sambar hide makes excellent suede leather for golfing and walking shoes. Barasinga skin can be readily used in leather industry. Tiger skins are regarded as coveted trophies.

Hairs and feathers : Different types of hairs are obtained from different goat breed. They are used in the manufacture of blankets, upholstery, pile fabrics, men's summer suiting, lining, rugs, braids, nets, shoe laces, hats, decorative trimmings, shoe wigs, curtains, bed spreads, etc. Peacock feathers are extensively used for decorative purposes ; fans, picture-frames, etc. are made from them in Agra, Varanasi, Jhansi, etc. There is a limited demand for peacock feathers from America for theatrical purposes. Wild boar bristles are used for making various types of brushes, ranging from shaving and toilet types to painting and distempering types. Porcupine quills are used in cottage industries for ornamental finish of articles of utility. Quill feathers of pigeon are utilised for making tooth picks.

Shells : Shells of cowrie and tortoise are used for decorative purposes. Cowrie shells are also used for ornamental purposes and for indoor games ; because of their beauty, form

and colour markings, they have been favourite objects for curio collectors. Broken cowries are used for lime manufacture. The shell of crabs are powdered after blanching and used as feed for poultry and swine.

Antlers : are used in making handles for cutlery, umbrellas and sticks and generally for fancy artistic ware. They retain their shape and finish under varying climatic conditions.

Manure : Excreta of most of these animals can be utilised as manure for enriching the soil. Bones can be utilised for bone meal, which forms valuable manure. Crab shells are also used as manure.

Hormonal preparations : Glands such as thyroid, pituitary and pancreas of wild boar can be used in the manufacture of hormonal preparations. Valuable pharmaceutical preparations like pepsin, thyroxine, pituitrin, insulin, liver extracts, testosterone, etc., can be prepared out of these glands.

SOME SUGGESTIONS FOR TRIBAL WELFARE

Hunger and unemployment are the major problems the tribals are facing throughout the country today. From the foregoing account it will be seen that there are 11 animals that have been in wide use for medicinal purposes in Madhya Pradesh and similarly 8 animals in Orissa. Most of them are also sources of food. At the same time they have considerable industrial potential also.

Only the efforts which are mutually beneficial will have long lasting success. The following proposals, if implemented, will bring tribals to the main stream ; they, therefore, are put forth for the upliftment of the tribals as well as for the benefit of the rest of the country.

1. It is proposed to start farms by the Government for rearing various animals in the tribal areas. Here as many tribals as possible should be employed and as and when they get sufficient experience the senior cadre should be gradually replaced by the tribals.

2. Monetary assistance should be given to the interested

and deserving individuals to start their own private farms to rear these animals. If encouraged, many tribals will come forward to take advantage of it. Collection centres may be established at important places to purchase their products to enable them to get right price for their products.

3. Industries based on these farm products can be started in the tribal areas to increase employment opportunities.

(a) After testing their efficacy, medicines can be produced on a large scale which can be utilised by the tribals as well as by others. When there is an all out attempt to achieve 'health for all by 2000 A.D.', as declared by the World Health Organisation at Alma Ata, tribal medicines can also play a significant role. More scientific approach should be made to develop the tribal medicine and training centres should be established to impart systematic training in this branch of medicine.

(b) Factories for canning the meat of various animals like barasinga, bat, goat, porcupine, sambar, wild boar, pigeon, monitor lizard, tortoise and turtle can be established. In some cases there is taboo in eating the flesh of certain animals, which is only a question of time to overcome.

(c) Leather industry can be established with the ready availability of animal skin.

(d) Bone meal can be manufactured from the bones of animals, which is much in demand in agriculture.

(e) Factories can be established for the manufacture of blankets, bed spreads, rugs, etc., from hairs that can be obtained from goats.

(f) Peacock feather can be utilised on a large scale for making decorative articles and their quills for floats for fishing. The quill feather of pigeon can be used for making excellent tooth picks.

(g) Factories for manufacture of hormones from the glands such as thyroid, pituitary and pancreas of wild boar can be established.

(h) Cottage industry can be established for preparation

of feed for poultry and swine from blood of wild boar and shells of crabs.

(i) Cottage industry may be established for making handles for cutlery, umbrellas, sticks and generally for fancy artistic ware from antlers.

(j) Shells of cowrie can be used for manufacture of lime.

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