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Yoruba traditional healers in psychiatry. II. Management of psychiatric disorders

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Summary

The methods of management of mental disorders employed by twenty Yoruba traditional healers were studied. Paranormal and pharmacological therapeutic agents were given prominence; psychological treatments were not employed to any great extent. The different types of medication employed could be differentiated into two groups, one in which pharmacological influences may be most important, and one in which paranormal influences may be more relevant (from the healers' points of view). Other forms of treatment that could be classified as paranormal are also described. One hundred and sixty-three plants were named by the healers as being used; of these only forty-eight were named by a quarter or more of the healers and only nine by half or more of the healers. The root bark of *Rauwolfia vomitoria* was employed by all healers. Animals and other agents employed were also identified.

Résumé

Nous avons étudié chez vingt guérisseurs traditionnels Yoruba les méthodes de traitement des troubles mentales. On a mis l'accent sur les médicaments thérapeutiques paranormaux et pharmacologiques et une moindre importance est accordée aux traitements psychologiques. Selon les guerisseurs, on peut diviser ces différents traitements en deux groupes; le premier prime les influences pharmacologiques tandis que le second privilégie les influences paranormales plus pertinentes. D'autres formes de traitement que l'on peut qualifier de paranormales sont décrites aussi. Les guérisseurs ont cité en tout cent soixante-trois plantes qu'ils emploient dont quarante-huit seulement sont connues de plus du quart alors que neuf seulement sont connues de plus de la moitié d'entre eux. Mais tous font usage de l'épiderme de la racine de Rauwolffia vomitoria. Les animaux et d'autres produits ont été identifiés également.

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Introduction

Widespread interest is currently being expressed about the practice of traditional medicine in the developing countries. Traditional medicine provides the only source of health care for the majority of people in the developing countries (World Health Organization, 1975). One major cause of the interest in traditional medicine is the possibility that examination of the therapeutic methods employed might yield useful new tools for modern medicine. It is by no means certain to what extent and in what areas traditional medicine is clinically effective. However, it must be remembered that many of the agents currently employed by modern medicine were originally derived from traditional sources (Thomson, 1976).

Yoruba traditional healers in psychiatry enjoy wide popular acclaim, and have been widely studied at the philosophical, religious and sociological levels. However, information about their therapeutic techniques is scanty.

The possible therapeutic factors involved can be broadly divided into three groups — paranormal, psychological and pharmacological. It would appear that the last of these would most readily yield new therapeutic advances, and some pharmacological evaluation of the agents

employed by healers is currently in progress (Makanjuola & Odebiyi, 1981; Wambebe *et al.*, 1982).

Pharmacological research would be greatly facilitated if more detailed information concerning the methods employed by the healers were available, in particular the agents used. Such knowledge would be of particular value in determining the priorities for research. The healers employ a variety of types of preparation and it is important to establish how each agent is administered. For example, an agent that is applied into scarifications as a charred preparation is less likely to be worth pharmacological investigation than one that is taken orally as a pounded medicine.

Prince (1963) pointed out the widespread use amongst traditional healers of *Rauwolffia vomitoria*, the major active constituent of which is reserpine (Sofowora, 1982). Some other agents used by the healers have also been identified (Oliver, 1960; Verger, 1966; Maclean, 1971; Sodipo, 1976), but a comprehensive list, including the details of mode of preparation and application is still lacking.

Two major factors hinder research in this field. The first is the natural reticence of the healers, who regard their trade as knowledge to be acquired over an arduous period of apprenticeship by those accorded the privilege and not something to be lightly disclosed to strangers with opposing beliefs. The second is that identification of the agents used, particularly the plants, is a time-consuming and arduous task. The Yoruba names for each plant vary from region to region. Therefore, each plant must be identified from specimens supplied or confirmed at source. This has not been the practice in previous studies.

This paper is the second of two reporting a study of Yoruba traditional medicine in psychiatry. Prolonged, repeated unstructured interviews were carried out following introduction of the researchers by trusted confidants of the healers. This approach was aimed at reducing the healers' natural reticence. The first paper examined the healers' concepts of the nature and aetiology of mental disorders. The present paper provides details of the methods used in the management of mental disorders and includes a pharmacopoeia of the agents used.

Materials and methods

Twenty healers participated in the study, which took place over an 18-month period. Each healer was introduced to the interviewer by a close confidant. Each healer was interviewed between three and nine times, each interview lasting between 1 h and 3 h. The interviews were unstructured and leading questions were avoided. The healers were never asked whether any particular agent was used; only after an agent was mentioned were details then sought of the mode of preparation and administration. In the majority of cases this information was provided in the form of recipes.

Identification of agents used

Plants. Where possible, plant specimens were obtained in the presence of the healer concerned. Where this was not possible, the healer was later asked to confirm the identity of the plant. Plant specimens were labelled and put into a plant press at the point of collection, at which time other details (type of plant, colouring, location, etc.) were also noted. The plants (in their press) were then dried at 50°C, treated with preservative and mounted. The specimens were identified in the Herbarium of the Department of Botany of the University of Ife and, in a few cases, at the Department of Botany of the University of Ibadan. All specimens have been lodged in the Herbarium of the Department of Botany, University of Ife.

Animals. Animals were identifed *in situ* from dead specimens, from pictures (Booth, 1960; Cansdale, 1960; Elgood, 1960; Holden & Reed, 1972), and in a few obvious cases (e.g. the domestic goat) from common knowledge, the scientific names of such fauna then being obtained from standard texts (Bannerman, 1953; Walker *et al.*, 1975; Oluyemi & Roberts, 1979).

Other agents. Minerals, prepared substances and other agents that could not be regarded as common knowledge were identified from specimens supplied by the healers or from the market.

Results

The healers

Details of the twenty healers studied are given in the first part of this study (Makanjuola,

1987). Nine practised in the Iwo area, seven in the Ile-Ife area and four in the Ilesa area. According to Oyebola's (1980) classification, seven were Babalawos and thirteen were Oniseguns. All were specialists in mental disorders.

Management of mental disorders

Diagnosis. Diagnosis was based mainly on the patient's history as well as mental state examination in all cases. Nine healers also employed divination. As explained in the accompanying article (Makanjuola, 1987), the most important feature of diagnosis was aetiological, and not the clinical presentation *per se*.

Treatment. The broad principles of management of psychiatric disorder were similar to those of modern medicine. Disturbed patients were initially brought under control by a combination of incantations ('ọfọ') and medicinal preparations. Manacles and shackles were also employed. The mental disorder was then treated, again using incantations and a variety of medicinal preparations, prescribed according to a fixed regime. Steps were also taken to prevent recurrence. In trying to understand the various forms of management, it was necessary to remember the emphasis placed on paranormal phenomena in the aetiology of mental disorders.

Details of the different types of agent employed are given below.

1. *Medicinal preparations*

(a) Agunmu (pounded medicine). The ingredients are dried in the sun, pounded and ground to a fine powder. The medicine is administered orally, usually in a bland vehicle such as cold pap, but may also be given on its own. The following is an example of a formula for agunmu:

oora igbo (*Rauwolffia vomitoria*) — root bark;
bobo awodi (*Solanum dasyphyllum*) — fruits;
ataare (*Afromomum melegueta*) — fruits.

(b) Agbo (aqueous infusion). The agents are soaked in water in a container, and boiled in most cases, or occasionally left to soak for some days without heating. The liquid supernatant is administered orally. In some cases the patient may be bathed with the liquid (see below).

(c) Aseję (soup). The agents are cooked in the form of a vegetable soup. The entire preparation, both solid and liquid, is administered orally.

(d) Ogun jijo ('burnt' medicine). The ingredients are slowly charred in a pot. The preparation is not actually allowed to catch fire; however, the result is still a black powder. It is administered orally but may also be used in 'gbęrę'. An example of a formula for 'ogun jijo' is as follows:

ayunre bọna bọna (*Albizia ferruginea*) — leaves;
tętę isanbaiye (*Amaranthus viridis*) — leaves;
ọgędę węrę (*Musa sapientum*) — fruit;
ọdundun (*Kalanchoe crenata*) — leaves;
wọrọwọ (*Crassocephalum biafrae*) — leaves;
ifọn (*Olax subscorpioidea*) — leaves;
igbin (*Arachatina marginata* (giant land snail)) — three in number;
ikupęrọ (*Dichrocephala integrifolia*) — leaves.

(e) Ọsę (soap). The ingredients, sometimes prepared in the same way as 'ogun jijo', are pounded into indigenous ("black") soap. The patient's head or whole body is bathed with it at prescribed intervals.

(f) Ipara (ointment). The ingredients are mixed with a vehicle, usually palmoil or shear-nut butter, and applied to the head or sometimes the whole body.

(g) Gbęrę. Medicine, often prepared as 'Ogun jijo', is rubbed into incisions in the skin. These incisions, usually in the scalp, are made in a prescribed pattern.

(h) Ogun finfin (snuff). The ingredients are prepared as a fine powder, which the patient inhales into each nostril or which, in the case of unco-operative patients, is blown into the nose. The healers claim that the medicine gains access to the brain by this route and drives away evil spirits and other malignant forces.

(i) Turari (incense). The ingredients are prepared as a dry powder, which is

thrown over a charcoal fire. The incense may be burnt in the same room with the patient, or he may be exposed to the fumes at high concentration by making him inhale them under a blanket. 'Turari' is used to drive away evil spirits and other malignant forces that are involved in mental disorder.

(j) Ogun ọlọti (alcoholic infusion). The ingredients are soaked in strong spirits (schnapps, gin or native gin) and the liquid given orally.

The first seven preparations were used by all healers. 'Ogun finfin' and 'turari' were employed by all but two healers. 'Ogun ọlọti' was employed by only three healers (all from the Ile-Ife area). Indeed, the majority of healers stated that alcohol was contra-indicated in mental disorder.

In a few cases agents were employed in other ways. One healer employed a poultice of leaves wrapped onto the forehead. Sometimes the liquid from a plant or animal was drunk directly.

2 *Non pharmacological methods*

(a) The ọfọ (incantation). This is also termed 'ọrọ'. All the healers employed the 'ọfọ' which may be used in two ways.

(i). To bring a disturbed patient under control. Some of the healers claimed to be able to achieve this by the incantation alone, others made the incantation over a preparation they carried with them ready for use as required. This is usually prepared in an animal horn.

(ii). Incantations are often made during the preparation of a medicine, and before its initial use on a patient. Not all preparations require an 'ọfọ'; 'ogun jijo' almost always does. The example given below is said in conjunction with the 'ogun jijo' recipe given in the last section. This particular 'ọfọ' is relatively short; most are much too long for inclusion in a paper such as this. These longer incantations usually make reference to the Orishas, particularly the Ifa Orisha, 'Ọrunmila'.

"Bi alẹlẹ ba nlẹẹ lọ,
Bọnna bọnna a sun lọ fọn fọn fọn
Ki lamọrin o sun fọn fọn fọn
Asun nparada in t'igi aja
Ki lamọrin o sun fọn fọn fọn
A sun fọn fọn fọn ni ti Ifọn
Ewee ifọn lo ni ki lamọrin o sun fọn
fọn fọn (lines 6 and 7 repeated × 2)
T'ori pe ẹrọ pẹtẹ pẹtẹ ni t'ọgẹdẹ
Ki gbogbo ara lamọrin o rọ
Ki ara rẹ o rọ
Erọ pẹtẹpẹtẹ ni t'ọgẹdẹ
Erọ pẹtẹpẹtẹ ni t'igbin
Erọ ni t'ikupẹrọ, o
Erọ ni ti wọrọwọ
Erọ ni ti tẹtẹ
Erọ ni t'ọdundun
Erọ ni ti rinrin
L'ẹrọ l'ẹrọ ni ti ki ara lamọrin o ma ri"

In English this goes as follows:

"As the night time falls,
Bọnna bọnna sleeps off, deep deep, deep
Let him sleep
The rafter never changes position
Let him sleep, deep, deep, deep
Ifọn is for deep, deep, deep, sleep
It is the leaf of Ifọn that says he should sleep deep, deep, deep (lines 6 and 7 to be repeated × 2)
Because the banana is a heavy tranquillizer
Let his whole body be calm
Let his body be calm
The banana is a heavy tranquillizer
The snail is a heavy tranquillizer
Ikupẹrọ is a tranquillizer, o
Wọrọwọ is a tranquillizer
Tẹtẹ is a tranquillizer
Ọdundun is a tranquillizer
Rinrin is a tranquillizer
Calmly, calmly, should his body be like."

(b) Pressing 'odu ifa' into the medicine. In certain cases, particularly ogun jijo, following the relevant 'ọfọ', one of the 256 pairs of Ifa figures or 'Odus' (Bascom, 1969) is pressed into the medicine before its initial administration. The most commonly mentioned 'Odu' was 'Ogbe meji'. Fifteen healers use the 'Odu Ifa' in this way.

(c) Divination. Nine of the healers employed divination, in the case of the Babalawos using the Ifa Oracle (Bascom, 1969). However, only five healers regarded divination as essential. Often the

patient is too ill to participate in divination at the time of presentation. In such a case a close relative may represent the patient during the process or divination may be postponed until the patient is better.

(d) 'Etutu' (sacrifice). Fourteen healers regularly made sacrifices at some stage of treatment. The nature of the sacrifice varies according to the results of divination or the healer's own practice. Sacrifices are made in order to appease supernatural agencies and recruit their help.

(e) Other procedures. Manacles and shackles are used initially by all healers on disturbed patients. Eight healers 'medicate' these manacles with incantations and medicinal agents, e.g. the leaves of 'eṣiṣi' (*Tragia benthami*). Such treatment imparts tranquillizing properties to the manacles (six healers) or drives away evil spirits involved in hallucinatory experiences (two healers). One healer puts medicinal preparations under a patient's pillow to induce sleep.

'Psychotherapy'

The interviewer did not elicit information on any procedure that could be likened to psychotherapy in the Western medical sense. Patients and their relatives were, however, routinely counselled, mainly concerning aetiology (in which the emphasis is often on the metaphysical) and necessary preventive measures against recurrence.

Follow-up after control of symptoms or discharge

For severe mental disorders (the psychoses) all the healers prescribed a follow-up period, with intermittent medication, of between 1 year and 2 years.

Individual agents used

(1) Plants. Table 1 indicates the plants most commonly named as being used by the healers. A total of 163 plants were named. All employed the root bark of *Rauwolffia vomitoria* in 'agunmu' (pounded medicine). Of the five healers who were prepared to name what they considered to be the single most important agent, four said *Rauwolffia vomitoria.*

Nine plants were named by one half or more of the healers and forty-eight by one-quarter or more.

The plants named by fewer than seven healers are listed in Appendix I.

(2) Animals. Thirty-nine animals were named by the healers. The most commonly employed are listed in Table 2. The most commonly used animal was 'eku asin', the muskshrew (*Crocidura* spp.), an ugly little animal with a very offensive odour. The less commonly used animals, not listed in Table 2, are given in Appendix II.

(3) Other ingredients. Forty-five other ingredients were mentioned, the most common being listed in Table 3. Other agents named included: ẹtu (gunpowder); human, chicken, pigeon, dog, horse and lion faeces; the faeces of a mentally ill person; alum; 'ẹdun ara' (thunderstone); sand from various sources; scrapings from an axe, a door, a yam mortar and a yam pestle; stones of various types; palm kernel husks; ashes from a blacksmith's fire; the urine from a patient, from his mother and from a young child; 'irin' (iron); 'efun' (calcium oxide); 'ekuru funfun' (a bean preparation); 'aṣọ waji' (a black cloth); leather parchment twine; 'kafura' (camphor) and 'akogun' (not identified).

Discussion

In their management of mental illness, the twenty healers placed emphasis on paranormal and pharmacological parameters. The healers' emphasis on the importance of paranormal phenomena follows naturally from the belief that such phenomena play the most important role in the causation of mental disorders. Incantations, the 'Odus' of 'Ifa', divination and the non-pharmacological nature of many of the medications used, including medications of a frankly supernatural nature, are all considered to be an essential aspect of therapy, even among the healers with strong Moslem convictions. Previous authors have claimed a large psychotherapeutic component to traditional healing (Prince, 1964; Osuntokun, 1975). These

Table 1. Plants most commonly used by the healers

Botanical names	Yoruba names	Parts used	No. healers using it	Type of preparation
Rauwolffia vomitoria Afz Apocynaceae	Akọdodo, oora, igbo, asofeyeje; eleegbọn were, onigbosigbo, apawere	Root Leaf	20 1	Au, 20; Ab, 6; Ip; J Ab
Afromomum melegueta K. Schum Zingiberaceae	Ataare	Fruit	15	Au, 12; J, 5; Gb, 2; F, N-P
		Bark	1	Au, Ab
Xylopia aethiopica (Donal) A Rich. Anonaceae	Eeru	Fruit	13	T, 6; Au, 5; Ab, 3; S, 2
Musa sapientum Linn Musaceae	Ogẹdẹ were, ogẹde abo ogẹdẹ ọmini	Fruit Sap	7 5	J, 5; Ip, 2; S, 2 Ab, 5
Allium escalonicum Linn Amaryllidaceae	Alubọsa elewe	Bulb	12	J, 5; As, 4; S, 4; Au
Kalanchoe crenata (Andr.) Haw. Crassulaceae	Ọdundun	Leaf	11	As, 6; J, 5; Ip, 1; Au
Piper guineense Schum. & Thonn. Piperaceae	Iyere	Fruit	11	As, 7; Au, 3; Ab, 5
Securidaca longipedunculata Fres Polygalaceae	Ipẹta	Root	10	F, 6; Au, 3, Ab, 2
Olax subscarpioidea Oliv. Olacaceae	Ifọn	Root	10	Au, 7; Ol, 2; F, J, Gb
Crassocephalum biafrae (Oliv. & Hiern) S. Moore Compositae	Wọrọwọ	Leaf	10	As, 4; Ab, 4; Au, 2; J
Cassia alata Linn. Caesalpinaceae	Asunwọn Oyinbo	Leaf Flower	10 2	Ab, 6; Au, 3; As Au
Erythrophleum guineese G. Dom Caesalpinaceae	Ọbọ; Ẹrun	Bark	9	F, 4; Ip, 4; S, T, Ab
Impatiens sp. Balsaminaceae	Oniyeye	Root Leaf	3 6	Au, 3 T, 3; Au, 2; 5
Nauclea latifolia Sm. Rubiaceae	Ẹgbesi	Root Leaf	9 2	Au, 4; Ab, 3; Gb S,2

Parquetina nigrescens Afz Periplocaceae	Ọgbọ	Root	9	Au, 7; Ip; Gb
		Leaf	2	S, 2
Tragia benthami Bak Euphorbiaceae	Esisi; Yeesi	Root	3	F; Au; J
		Leaf	6	N-P, 4; Au, 2
Dichrocephala integrifolia (Linn. f.) O. Ktze Compositae	Ikupẹrọ	Leaf	9	J, 6; Ip, 3; S; Au
Brillantaisia patula T. Anders Acanthaceae	Ọwọ	Leaf	9	As, 4; J, 2; Ab, 2; S
Amaranthus viridis Linn. Amaranthaceae	Tẹtẹ atetedaiye Tẹtẹ isanbaiye	Leaf	9	J, 5; As, 3; Ip; Au
Garcinia cola Heckel Guttiferae	Orogbo	Fruit	8	Au, 5; J, 2; F
Khaya Senegalensis DC Meliaceae + K. grandiofoliola DC	Ọgọno	Root	1	Au
		Bark	8	Ab, 4; J, 4; Au; Gb;
Chlorophora excelsa (Welw) Benth & Hook Moraceae	Iroko	Root	3	S, 2; Ab
		Leaf	5	Ab, 4; J
		Bark	3	S, 2; Ab
		Sap	2	S, 2
Albizzia ferruginea Benth Mimosaceae	Ayunrẹ bọna bọna	Root	8	S, 5; Ab; F; J; M
		Leaf	1	As; S
Dracaena smithii Bak Ex Hook, f Liliaceae	Eperegun	Root	1	S
		Leaf	7	Ab, 3; S, 3; Au, 2; Ip
Glyphaea brevis (Spreng) Monachino Tiliaceae	Pasan	Root	1	Au; Gb; S
		Branch*	7	N-P, 7
Croton zambesicus Mull. Arg. Euphorbiaceae	Ajẹ obale, Ajẹ ofole	Root	7	T, 7
		Leaf	1	Au

*The branch, often with additional medications, is used as a whip to control the patient.

Abbreviations: Ab — agbo, aqueous infusion; As — asejẹ, soup; Au — agunmu, pounded medicine; F — ogun finfin, snuff; Gb — gbẹrẹ, medicine rubbed into scarifications; Ip — ipara, ointment; J — ogun jijo, burnt medicine; Ol — ọlọti, alcoholic infusion; S — ọsẹ, soap; T — turari, incense; N-P — non-pharmacological — agents not applied to the body but used on manacles, charms, etc. (mode of action considered to be entirely supernatural). The numbers refer to numbers of healers who use the agent in that particular way.

Table 2. Animals most commonly used by the twenty healers

Scientific name	English common name	Yoruba name	Part(s) used	No. healers	Type of preparation
Crocidura spp.	Musk shrew	Eku Asin	Whole animal	12	Au, 6; Ab, 4; S, 2; Ip
Chameleo spp.	Common chameleon	Ọgà; Agẹmọ	Whole animal	10	Au, 6; Ip, 3; N-P, 2
Viverra civetta	African civet	Ẹta	Head	1	Ab, J
			Stink-gland (Eseta)	10	Ab, 8; Au, 4; S, 2
Gallius domesticus	Chicken	Adiẹ	Whole animal	6	J, 4; Au, 2; S
			Head	4	Au, 4
			Blood	1	As, J
			Egg	2	J, 2
Capra hircus	West African dwarf goat	Ewurẹ	Skull	2	Gb, 2
			Meat	6	As, 6
			Viscera	1	As
			Fat	1	T
Centropus-senegalensis senegalensis	Senegal coucal	Elulu	Head	7	J, 5; Gb, 2
Ovies aries	West African dwarf sheep	Aguntan	Blood	2	J, 2
			Heart	2	J, 2
			Meat	3	As, 3
Cricetomys gambianus	Pouched rat; giant rat	Okete	Head	5	J, 3; As, 2; Ab
			Intestine	1	J
Arachatina marginata	Giant snail	Igbin	Whole animal (no shell)	4	Au, 2; J, 2; Ab
			Haemolymph	1	As a vehicle for Au

Abbreviations: Ab — agbo, aqueous infusion; As — aseje, soup; Au — agunmu, pounded medicine; F — ogun finfin, snuff; Gb — gbẹrẹ medicine rubbed into scarifications; Ip — ipara, ointment; J — ogun jijo, burnt medicine; Ol — ọlọti, alcoholic infusion; S — ọṣẹ, soap; T — turari, incense.
N-P — non-pharmacological — agents not applied to the body but used on manacles, charms, etc. (mode of actions considered to be entirely supernatural). The numbers refer to numbers of healers who used the agent in that particular way.

Table 3. Other agents most commonly used by the healers

Yoruba name	English name	Description or identity	No. healers	Type of preparation
Epo Pupa	Palm oil	—	20	Vehicle, 20; As, 3
Ori	Shear-nut butter	—	20	Vehicle
Ọṣẹ Dudu	Black soap	—	20	For soap
Kahun Bilala	—	Sodium carbonate	13	Au, 7; J, 4; Ab; S
Iyerosun	—	The powder produced following infestation of *Baphia nitida* wood by termites	9	N-P, 6; S, 2; Ip
Irun Ori Were	The mentally ill person's hair	—	8	J, 7; Ip
Obu Otoyọ	—	Potassium sulphate	7	Au, 4; As, Gb; Additive to a mixture
Imi Orun	Sulphur	Sulphur	7	T, 5; S, 2
Iyọ	Salt	Sodium chloride	6	Au, 4; As, 2; Ip
Imi Eniyan	Human faeces (dried)	—	6	N-P, 4; Au, 2
Adin Agbọn	Coconut oil	—	5	Vehicle

Abbreviations: Ab — agbo, aqueous infusion; As — asejẹ, soup; Au — agunmu, pounded medicine; F — ogun finfin, snuff; Gb — gbẹrẹ, medicine rubbed into scarifications; Ip — ipara, ointment; J — ogun jijo, burnt medicine; Ol — ọlọti, alcoholic infusion; S — ọṣẹ, soap; T — turari, incense.
N-P — non-pharmacological — agents not applied to the body but used on manacles, charms, etc. (mode of actions considered to be entirely supernatural). The numbers refer to numbers of healers who used the agent in that particular way.

authors appear to view much of the ritual aspects of traditional healing such as incantations and sacrifices as psychotherapeutic agents. This should not be confused with formalized psychotherapy in the Western sense as has been claimed by Frank (1973); certainly the healers described in the present study did not regard it in this way. While it is likely that psychological (or 'psychotherapeutic') factors do play a role in traditional healing, it would appear presumptuous of Western-trained observers to explain away the traditional healer's practice in this manner.

Ten major forms of medicinal preparation are used by the twenty healers studied. From the point of view of pharmacological research, it would appear that four types of preparation would be of most interest — the 'agunmu' (pounded medicine), 'agbo' (aqueous infusion), 'asejẹ' (a form of vegetable soup) and 'ọlọti' (alcoholic infusion). It is less likely that a more or less carbonized preparation ('ogun jijo') or a preparation applied to the skin ('ipara', 'ọṣẹ', 'gbẹrẹ') would have much psychopharmacological activity, the possibility of skin absorption notwithstanding. The same applies to 'turari' (incense). It is possible that 'ogun finfin' (snuff) may have pharmacological effects via mucosal absorption. These latter six types of preparation would appear to have more of a symbolic function. Five of them are applied primarily to the head or nasopharynx and 'ogun jijo' is invariably accompanied by incantation. Many of the agents employed in these latter preparations would appear to have marked symbolic properties, either in terms of indigenous name or other characteristics.

One hundred and sixty-three plants used by traditional healers have been identified. Of these, only forty-eight were named by a quarter or more of the healers and nine by half or more. It is likely that more of these agents would have

been named by a greater proportion of healers if they had been specifically asked about them. The interviewer considered such a process dangerous — in such circumstances the tendency to say 'yes' may outweigh the tendency to make the negative response. All the healers used *Rauwolffia vomitoria*, confirming Prince's (1963) observation. This plant is known to contain active psychotropic principles, foremost among which is reserpine (Sofowora, 1982). When one takes into consideration the frequency with which each agent is used as well as the type of preparation involved, the following other agents should be given priority for pharmacological investigation: *Allium escalonicum*; *Kalanchoe crenata*; *Securidaca longipedunculata*; *Olax subscorpioidea*; *Crassocephalum biafrae*; *Cassia alata*; *Parquetina nigrescens*; *Brillantaisia patula*; *Garcinia cola*; *Khaya senegalensis*; *Dracaena smithii*; *Morinda lucida*; *Microdesmis puberula*; *Carpolobia lutea*; *Senecio abyssinicus*.

Many of the plants used appear to possess symbolic value, in terms of either their indigenous names or their innate characteristics. Examples of the former include 'Ikupẹrọ' (*Dichrocephalia intergrifolia*) meaning 'death kills calm' and 'Amunimuye' (*Senecio abyssinicus*) meaning 'that which brings or takes away the senses'. The relationship between indigenous nomenclature and ascribed medicinal property has been discussed in more detail by Verger (1966). Plants with leaves that close up at night, such as 'Ayunrẹ bọnna bọnna' (*Albizzia ferruginea*) and 'Abo rere' (*Cassia tora*) or that close up when touched, such as 'Aluro' (*Mimosa invisa*) and 'Patanmọ' (*Biophytum petersianum*), are ascribed potent tranquillizing properties. Examples of such symbolic uses abound amongst the agents used and in general such agents tend to be used in those preparations, e.g. 'ogun jijo' of doubtful pharmacological properties or in frankly 'magical' preparations. Another group of agents, which appear not to be used in a strictly pharmacological manner, are the different peppers — *Afromomum melegueta*, *Xylopia aethiopica*, *Piper guineense*, *Parkia clappertoniana*, *Capsicum frutescens* and *Kaempferia nigerica*. Some form of pepper is regarded as an essential ingredient of most medicines in order to bring out the strength of the medicine in the same way that a pepper is an essential ingredient that brings out the flavour of a soup. *Afromomum melegueta's* Yoruba name, 'ataare', means 'pepper of goodness' and probably also has symbolic value.

The importance of the procedure for plant identification employed in the present study cannot be over-emphasized. Yoruba names for different plants vary from place to place, and indeed the same name may be employed in different localities for different plants. 'Akọdodo' is a good example of the latter — this name is used for *Rauwolffia vomitoria* in the Iwo area and for *Voacanga africana* in the Ile-Ife area. Dalziel (1937) gives the name to the latter plant, and this may account for Verger's (1966) claim that *Voacanga africana* is widely used as a potent tranquillizer; this was not found to be so in the present study.

With regard to the animal agents used, it is likely that many of them are employed because of their symbolic or supernatural significance. The slow-moving snail, for example, may symbolize tranquillization, and the chameleon's ability to change colour imparts it with some supernatural power. However, the possibility that some of these agents may have pharmacological properties should not be entirely dismissed; the juice of the snail may have anti-hypertensive properties (Tella, 1968).

Apart from the vegetable oils, which are used mainly as vehicles for administration, the other ingredients, neither animal nor plant (see Table 3), used, including the patient's hair, various types of excreta, sand, etc., are probably of symbolic and supernatural significance.

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Appendix I: less commonly used plants

In each case, the Yoruba name(s) is followed by botanical name, the part(s) used and the preparation(s) in which it is used. Abbreviations are as listed in Table 1. Plant nomenclature and authorities are as in Hutchinson and Dalziel (1957).

Plants named by six healers (total five)

Abamoda, *Bryophyllum pinnatum*, leaf: As, Ip, J; abo, *Parinari curatellifolia*, leaf: Au, J, N-P*; alupayida, *Uraria picta*, leaf: Au, Gb, Ip; obi abata, *Cola acuminata*, fruit: Au, Ip, N-P; rinrin, *Peperomia pellucida*, leaf: As, Au.

Plants named by five healers (total seventeen).

Agbasa, *Clausana anisata*, leaf: Ab, As, root: Ab, Ip, S; aluro, *Mimosa invisa*, leaf: J, N-P; amunimuye, *Senecio abyssinicus*, leaf: J, N-P, As, Au; aringo, *Microdesmis puberula*, fruit: Au, leaf: As, Au; ata

*Unopened young leaf is employed.

wẹrẹ (ata oluwẹrẹ), *Capsicum frutescens*, fruit: Au, F; bomu bomu, *Calotropis procera*, leaf: Hs, J, S; efirin gidi, *Ocimum gratissimum*, leaf: Ab, As; efirin oso, *Hoslundia opposita*, leaf: Au, S; efo odu, *Solanum nigrum*, leaf: Ab, As; ekuya, *Gynandropsis gynandra*, leaf: N-P, S, T; ijan, *Mallotus oppositifolius*, leaf: Ip, S; olojongburu, (igbawọ ọpọlọ), *Adenosternum perrottetii*, leaf: Ab, Ip; oruwọ, *Morinda lucida*, bark: Au, leaf: Au, root: Au; ọsunsun, *Carpolobia lutea*, fruit: Au, S; root: Ab, Ip, S; rẹkurẹku, *Indigofera nummulariifolia*, leaf: As, J, N-P; tagiri, *Adenopus breviflorus*, fruit: As; woowoo, *Ritchia longipedicellata*, root: A, F.

Plants named by four healers (total sixteen).

Abafe, *Paliostigma thonningii*, unopened young leaf: N-P, root: F, Au, Gb; abirikolo, *Eclipta prostrata*, leaf: J, S; ata, *Xanthoxylum macrophylla*, root: Au, Gb, bark: F; ata ilẹ, *Kaempferia nigerica*, tuber: Au; efirin odọn, *Lippia rugosa*, leaf: As; ekuku ilẹ, *Sesamum radiatum*, leaf: Au, S; ela, *Calyptrochilum emarginatum*, leaf: Au, S; igba, *Parkia clappertoniana*, seeds (iru): As, Au; ire, *Funtumia elastica*, leaf: Ab, S, root: Ab; ita, *Celtis brownii* & *C. zenkeri*, leaf: [illegible], root: S; itaponole, *Boerhavia diffusa*, leaf: [illegible], *Ageratum conyzoides*, unopened young leaf: N-P; [illegible], *Cassia nigricans*, leaf: Au, T; ọpọyọ, [illegible], leaf: As, A: Sajeje, not identified, leaf: [illegible], [illegible]tade, *Callandra portoricensis*, [illegible].

Plants named by three healers (total twenty-two).

Akoko, *Newbouldia laevis*, bark: Ab, leaf: Ab, root: Ab; alubosa ilẹ, not identified, bulb: As, Au; apamọde oko, *Hippeastrum equestre*, bulb: Au, arowọnran, not identified, leaf: J, S; Asuwon gidi, *Cassia podocarpa*, leaf: Ab; ayidan, *Tetrapleura tetraptera*, fruit: Ab, Au; bobo awodi (mafọwọkanọmọmi), *Solanum dasyphyllum*, fruit: Au; boro ayaba, *Impomoea asarifolia*, leaf: Ab, S; ejinrin, *Momordica charantia*, leaf: Au, sponge; ẹmu, *Indigofera welwitschii*, leaf: J, N-P; Eru, *Pachyelesma tessmannii*, bark; Ab, Au, leaf: Ab, Au; fruit: Ab; (akọ) ibẹpẹ, *Carica papaya* (male), leaf: Ab, root: Ab, Au; ina pupa, not identified — *Urera mannii* (Verger, 1967), leaf: N-P; inabiri, *Plumbago zeylanica*, leaf: F; ira, *Bridelia ferruginea*, leaf: Ab, root: Ab, Au, S; kannafuru, *Eugenia caryophyllata*, fruit: Ab, Au; koyin koyin ayaba, *Luffa cylindrica*, fruit: sponge; lapalapa, *Jatropha curcas*, sap: N-P, seeds: As; lara, *Ricinus communis*, fruit: Gb, J, seeds: J; ọdundun okun (ọdundun odo), not identified — *Emilia sagittata* (Abraham, 1962), leaf: As; ọpẹ gidi, *Elaeis guineensis*, root: Ab, J, fruit: J; patanmọ, *Biophytum petersianum*, leaf: J, S.

Plants named by two healers (total thirty-one).

Abufẹ, not identified, unopened young leaf: N-P, agbalumọ, *Chrysophyllum africanum* & *C. album*, fruit: S; ahọn ẹkun (mafowokanomomi, ewe egele), *Argemone mexicana*, leaf: Ip; aka, *Lecanodiscus cupanioides*, root: Gb, S; alọfọ, not identified, leaf: As, Au, F; amuje, *Harungana madagascariensis*, bark: S; apa asa, *Ageratum conyzoides*, leaf: T; arunsansan, not identified — *Ageratum conyzoides* (Verger, 1967), Leaf: Au, root: Au; baka, *Gladiolus klattianus*, bulb: Au; efinrin aja, *Ocimum gratissimum var.*, leaf: Ab, F; ẹnu opiye, *Euphorbia laterifolia*, whole plant: Ab, Au, Gb, S; Esigun, *Mondia whitei*, root: Au; ijo, not identified, leaf: As; ikanyanrin, *Solanum torvum*, fruit: N-P; ilosun, *Polystachyon polystachyon*, leaf: Ip, N-P; irinmọdo, *Ricinodendron heudelotti*, root: Ab, F; isin, *Blighia sapida*, leaf: T, F, fruit: J; iyẹrẹ, not identified, leaf: Ab; kasan, *Smilax kraussiana*, leaf: Ab, As, S; kọleorogba, *Pergularia daemia*, leaf: Ip, S; koriko ọba (koriko oyinbo), *Cymbopogon citratus*, leaf: T; ogia, *Daniellia ogea*, gum: T; ọrọ alagogo, *Euphorbia kamerunica*, stem: Au, S, T; ọrọgi, *Elaephorbia drupifera*, bark: As, Au, S, latex: As; orombo nla, *Curus sinensis*, root: Ol; orombo wẹrẹ, *Citrus medica*, root: Ol; ọsun, *Solanum macrocarpon*, leaf: As; sapo sapo, *Vernonia conferta*, bark: Ab, root: Ab, Au; ṣẹnlọwọ ṣẹnlẹṣẹ, *Portulaca oleraceae*, leaf: Ip, N-P, sikimini, *Hibiscus surathensis*, leaf: As, S; tete gidi, *Amaranthus caudatus*, leaf: As, Ip.

Plants named by one healer (total forty-six).

Abododo, *Voacanga africana*, root: Au; abo rere, *Cassia tora*, leaf: N-P, fruit: N-P; akara aje, *Cnestis ferruginea*, leaf: T; akerejupon, *Cola heterophylla*, root: Au, N-P; akisan, not identified, leaf: S; akọ iroro, *Tephrosia pedicellata*, leaf: T; akọ rere, *Cassia occidentalis*, leaf: As; alubosa tapa, not identified, bulb: S; ariyọ, not identified, fruit: Au; ata ẹeru, *Capsicum annum*, fruit: Au; ataare aja, not identified, fruit: Au; atoo, *Chasmanthera dependens*, leaf: J; awerepepe, *Spilanthes filicaulis*, leaf: S; Awuje, *Phaseolus lunatus*, seeds: Au; aya, *Daniella oliveri*, unopened young leaf: N-P; ayin, *Anogneissus leiocarpus*, root: Ab; bara, *Colocynthis citrullus*, fruit: Ab; biranna, not identified, leaf: T; ẹmi, *Butyrospermum parkii*, bark: Ab, root: Ab; ẹpa ikun, *Gladiolus* sp., tuber: Au; eruju, *Uvaria chamae*, root: Au, Ip; ẹwọn agogo, *Lantana camara*, root: F; irosun, *Baphia nitida*, leaf: S; iyanrin, *Lactuca taraxacifolia*, leaf: Ab; idi, *Terminalia glaucescens*, root: Ab; jẹnjoko, *Cissampelos owariensis*, leaf: As; kajiji, not identified, fruit: T; koriko ẹwa, *Mariscus alternaifolius*, leaf shaft: As; koriko lati ori sare, weeds from on top of a grave: T; lali, *Lawsonia inermis*, leaf: T; ọgẹdẹ agbagba, *Musa sapientum* var. paradisica, fruit: Ip,

ojugbe, not identified, bark: Ab; okuku, not identified — *Anciostrophyllum secundiflorum* (Dalziel, 1937), root: Au; olorikigbode, not identified, leaf: T; opẹ oko, *Dracaena perottetii*, root: Ab; opoki, not identified, root: As; ose, not identified — *Adansonia digitata* (Abraham, 1962), bark: Ab; osepotu, *Sida acuta*, leaf: T; ọwọn pabida, not identified, leaf: Au, ip; owu, *Gossypium arboreum*, leaf: Ab; taba, *Nicotiana tabacum*, leaf: F; tamọlabia, *Crateva religiosa*, leaf: N-P; tẹtẹ egun, *Costus afer*, fruit: Gb; tude, *Calliandra portoricensis*, root: S; yeepe (Werepe), *Mucuna pruriens*, leaf: N-P.

Appendix II: less commonly employed animals

In each case the Yoruba name is followed by the common English name, the zoological name, the part(s) used and the type of preparation. Abbreviations are as listed in Table 2.

Animals named by four healers

Ẹja arọ, catfish, *Clarias* sp., whole body: As, J; ẹyẹlẹ, speckled pigeon, *Columba guinea guinea*, head: Ab, As; ikoko, spotted hyena, *Hyena hyena*, head: Ab, J; ọka, Gaboon viper, *Bitis gabonica*, poison fang: N-P.

Animals named by three healers.

Ẹja ojiji, electric catfish, *Malapterurus electricus*, whole body: As, J; ikun, West African ground squirrel, *Xerus erythropus*, head: Ab, Gb, J; sobe (ogboru), black cobra, *Naja melanoleuca*, head: Ip, N-P.

Animals named by two healers.

(Akọ) pẹpẹyẹ, male duck, *Cairina moschata*, head: N-P; ẹja abori, catfish, *Heterobranchus* sp?, whole body: As, Ip; igun, hooded vulture, *Necrosyrtes monachus monachus*, head: N-P; ọfafa, tree hydrax, *Dendrohydrax* sp., head: Gb, J.

Animals named by one healer.

Adaba, red-eyed turtle dove, *Streptopelia semitorquata erythrophrys*, head: J; adan, straw-coloured fruit bat, *Eidolon helvum*, whole animal: Au; agilinti, Bosc's monitor, *Varanus* sp., head: Ab; aja, dog, *Canis familiaris*, head: J; anta, Nile monitor, *Varanus niloticus*, head: Ab; aparo, bushfowl, *Francolinus bicalcaratus*, head: Gb; Ẹja Onipẹ, any scaly fish, whole body: J; eku afe, small rodent, not identified, head: J; eku ago, spotted grass mouse, *Lemniscomys striatus*, whole body: As; eku ẹda, multimammate rat, *Rattus natalensis*, whole body: As; eku ẹmọ, rufous Nile rat, *Arvincanthus niloticus*, whole body: As; ẹkun, leopard, *Panthera pardus*, brain: As; ẹtu, Maxwell's duiker, *Cephalophus maxwelli*, skull: Gb; igbin ilakọṣẹ, small land snail, *Arachatina* sp., whole animal: As; ijimere, red pata monkey, *Erythrocebus patas*, head: Ab; isan, small water mollusc, not identified, S; olobi, human placenta, fluid: Ab; ologbo*, cat, *Felis catus*, head: Ab; ọni, crocodile, *Crocodylus niloticus*, head: Ab.

*Must be beaten to death.

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