

Supplementary Materials: A Deceptive Curing Practice in Hunter–Gatherer Societies

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Table S1. Ethnographic descriptions of the ‘extraction trick’ from 74 hunter-gatherer societies. N = 74: Africa = 7, Asia = 6, Australia = 10, North America = 29, Central America and Caribbean = 2, South America = 20.

Culture Region	Society	Trick Description
Central Africa (Ituri Forest, Congo)	Mbuti	“When a pygmy is suffering from some mysterious ailment which he and his fellows are unable to cure and which seems to be magical in nature, he will go to the village of his Negro hosts and beg the local witch doctor to cure him by sucking out “disease objects,” by cupping with horns, or by the use of herbs.” (Putnam, 1948)*
Southern Africa (Angola)	Angola Bushmen	“There seem to be two kinds of medicine men, <i>!num te?au</i> , who officiate at initiation rites, do the tattooing, see ghosts etc., and <i>tlo k?au</i> , who heal the sick by singing, dancing, and extracting the evil from the patient’s body by smelling or snoring it out.” (Bleek, 1927)
Southern Africa (Namibia and Botswana)	Auin	“The doctor practices exorcism by saying magical charms over the sick person and finally, with the motion of a juggler, flinging to the ground a little piece of wood or the like which is supposed to have come from the body of the patient and to have caused the illness.” (Kaufmann, 1910)
Southern Africa (Namibia)	Damara	“An elderly Damara lady described how, at one point of her life, she was persistently sick; she could not feel anything and did not sleep, sitting up all night. One day a man came to help her. He told her she had a bird and a snake inside her. Although he could not suck the snake out, he sucked out the bird. It was a real bird. The man showed it to her and then threw it in the fire. From that day on she was better.” (Low, 2011)
Southern Africa (Botswana)	G/wi	“The G/wi believe that the invisible arrows shot by <i>G//amama</i> or by human enemies have lodged in women and children, who offer less resistance than men. These arrows must be extracted by a medicine man in trance, who sucks them out with his mouth and pulls them with his hands,

		before he ritually throws them away.” (Barnard, 1992)
Southern Africa (South Africa)	IXam	<p>“Then he [the sorcerer] takes out harm's things (from the [patient]). They call them bits of wood, for the things are like sticks. They were very pretty when I used to see them. These he sneezes out nicely. Then the person recovers...I have seen people who were ill, and the person who snored the sick man. said, that a butterfly was killing him; a white butterfly. Butterflies hurt us. by enter our bodies, then a sorcerer snores us, he draws them out; he sneezes them out of his nostrils, because they have been hurting us...” (Bleek, 1936).</p>
Southern Africa (South Africa)	Naron	<p>“By and by one of the workers was supported to the open, where he stood groaning and screaming for some minutes, then appeared to throw something away, became quiet and resumed work. This went on for some hours; then the patient was better and walking about. I do not think he was very ill to begin with. Massage, perspiration and suggestion seem to be the means used. The medicine men are supposed to draw out the evil and throw it away.” (Bleek, 1928)</p>
Central Australia (Northern Territory)	Arunta	<p>“While camped at Henbury, a station on the Finke River, we found on one occasion a woman blind with ophthalmia, both eyes being swollen to a great size. A magician decided that some enemy had propelled bones from a distance into her eyes, which bones must be extracted. This he proceeded to do by sucking out the bones with his mouth. The screams of the poor patient acquainted us of the fact that something was wrong, so we went over to see what was the matter. By sleight-of-hand he showed us pebbles and bits of bone that he pretended he extracted from her eyes.” (Chewings, 1936)</p>
Central Australia (Northern Territory)	Warlpiri	<p>“In ordinary cases the patient lies down on the ground while the medicine man bends over and sucks vigorously at the affected part of the body, spitting out every now and then supposed pieces of wood, bone or stone, the presence of which is believed to be causing the injury and pain.” (Spencer & Gillen, 1899)</p>
Central Australia (Northern Territory)	Yolngu	<p>“If the illness has been caused by intrusion, he uses a gentle massage to force the foreign object</p>

		within the victim's body to a certain spot where it can be sucked out by the healer...A Birkili clansman had an ache in his back. Willidjungo was called. he gave him the usual rubbing treatment, found the place that was painful, and removed a small stick." (Warner, 1937)
Central Australia (Northern Territory)	Larrakia	"the medicine-man may be summoned, who removes the pain by gestures and by pretending to remove an offending body by sucking, eventually shewing a piece of meat covered with blood to the sufferer." (Basedow, 1906)
Central Australia (Western Desert)	Martu	"The presence of foreign objects in the body is offered as the most common cause of illness. Such objects take a variety of forms. Pieces of shell, wire or stones often are "extracted" from the patient's body and shown to the patient and onlookers as proof that the sufferer has been a victim of sorcery." (Tonkinson, 1982)
Central Australia (South Australia)	Pitjantjatjara	"The treatment consisted of massage expertly done, "followed by sucking the affected part and removing 'bad blood' and...the foreign object" (generally a nondescript piece of wood). This treatment was the same in other Pitjantjatjara groups and among the Janggundjara (at Everard Park)." (Elkin, 1949)
North Australia (Bathurst Island)	Tiwi	"A woman on the point of death was an early patient. The new witch-doctor applied his lips to her chest and appeared to suck out a dirty, rusty rag, a piece of wire, and a few pebbles, together with some blood (which he probably produced by biting his tongue). The woman died; but all the people uttered loud exclamations of wonderment at the cleverness of the doctor, and a collection, chiefly of sticks of tobacco, was made to mark their approval of such distinguished surgical attainments." (Barclay, 1939)**
Northeast Australia (Queensland)	Pitapita	"the injured individual will consult some medical friend of his, and, with the usual gift ["a blanket, human-hair belt, etc"], asks him to discover his assailant, and possibly the name of his alleged enemy may be divulged straight away. More often, however, the doctor is not quite such a fool as to commit himself so readily, but exercises his power of removing from within the patient's body the actual bone, pebble, flint,

		etc., which the would-be murderer had invisibly inserted there." (Roth, 1897)
South Australia (Murray River)	Yaraldi	"Karloan's father diagnosed that Keiwuki had been pierced by a <i>ngildjeri</i> pointing stick. He slept for three days until he was ready for treatment. The doctor removed the <i>ngildjeri</i> and examined it, saying, 'It is from Pituwi-nangkul' (that is, the victim's own cousin...). Three months afterwards, Keiwuki became extremely ill and died." (Berndt & Berndt et al., 1993)
South Australia (Victoria)	Wurundjeri	"The [victim] was "sung" by the sorcerer so that the smell would remain localized. In order to accentuate the illness the man was continually "sung." It was possible however to effect a cure, by "singing" the patient, and by massaging to remove the emu feathers. Sorcery carried out by projecting the quartz-crystal...into the body of the victim...A cure could however be effected by another "clever man," who would remove the crystal..." (Berndt, 1947)
Southeast Asia (Tawi-Tawi, Philippines)	Sama-Bajau	"The <i>magla'ankuliah</i> ceremony involves the removal of foreign objects from the body of a sick person. The objects, placed in the body by offended spirits, are believed responsible for illness or abnormal behavior. One man told me that nails and bits of glass were once extracted from his body by a <i>djin</i> ." (Nimmo, 2000)
Southeast Asia (Malaysia)	Semang	"This recalls the Batek Teh and Mendriq notion that certain kinds of chest pains are caused by tiny needles (<i>jarom</i>) that are blown into the body by the wind. Some people know how to cure this ailment by sucking the needles out." (Endicott, 1979)
North Asia (Russian North)	Nenets	"concerning internal diseases they say that a worm has made its way into the stomach, and in order to find the place where it rests, they conduct a search over the stomach, with a sharp instrument <i>/nosikom/</i> that they have by them for such an eventuality, and when they find the ailing spot they either open up the stomach, or simply apply their lips to it, summon the worm, suck it into their mouth, and, taking it out, show it to the cured man, who after this operation lies prostrate on his back, and, kissing the air three times, each time pronounces: <i>Num sir</i> , i. e., God's work." (Islavin, 1847)

North Asia (Russian Far East)	Yukaghir	“Having smoked, the shaman rises, approaches the patient and begins to seize the sick part with his teeth, thus trying to produce the evil spirit who causes the sickness. The latter is obdurate, he protests, but the shaman, being held from behind by the clothing by the assistant, and with the help of his spirits, after a desperate struggle, extracts the evil spirit.” (Jochelson, 1975)
North Asia (Russian Far East)	Koryak	“On the Palpal Mountains I was told that a woman shaman, who died quite recently, used to treat her patients by opening the affected place, cutting out a piece of flesh, and swallowing it, thus destroying the disease, together with the spirit that had caused it. It was said that the wound she made would heal up immediately.” (Jochelson, 1908)
North Asia (Northern Siberia)	Selkup	“According to the Sel'kups, the deity <i>Nom</i> (<i>Num</i>) was benevolent and the underground spirit <i>Kyzy</i> was an evil spirit. <i>Kyzy</i> had a multitude of spirit-aides who, like the wind, entered the human body through the skin and caused sickness by nibbling at some organ or other. He found his way into people in the form of a worm or an insect, and moved along the blood vessels. Hence, the shamans, when called upon to treat a sick man, aimed at driving out the unwanted guest.” (Prokof'eva, 1964)
North America (Northwest Canada)	Copper Inuit	“After carefully examining the woman, he told her he would remove the pain by ‘sucking it out.’ He laid the woman on her back with her arms above her head and told her to clench her fist. When the arm was rigid, he rubbed it vigorously and placed his mouth over the sore spot, sucking very hard...The shaman continued to suck on the arm, apparently with drawing something. He spat into his hand and held it out for all the onlookers to see. In his hand were small, pebble-like objects, some of them quite large...The woman was completely cured and was never again troubled by pains in her arm. Utuggauq slept with the woman that night, presumably his fee for the treatment.” (Pryde, 1972)
North America (Northwest Canada)	Slavey	“Old Gah-lia could take things out of people with his mouth. Once he sucked something sharp out of a person, and then spat it in his [own] hand. Another time, he sucked out some

		<p>blood and spat it in his hand. There was something all twisted like a hair or worm in the blood. It was alive and it moved in his hand. [Here the informant wrinkled his nose and shuddered to express squeamishness.] Afterwards, he threw it in the fire.” (Helm, 1954)</p>
North America (Western Canada)	Kaska	<p>“A shaman also sucked intrusive disease from the body, revealing stones or very little animals that had caused the ailment.” (Honigmann, 1954).</p>
North America (Western Canada)	Nuu-chah-nulth	<p>“Their ordinary method of removing disease is by sucking and singing over the patient...Other shamans are said to be able to suck out arrows, bullets, and the like.” (Boas, 1890)</p>
North America (Southern Canada)	Chipewyan	<p>“For the most part the treatment of sickness seems to have been shamanistic: incantations, sucking the sick part to remove the “cause” in the form of a small stone, a fish bone, and so on.” (Birket-Smith, 1930)</p>
North America (Southern Canada)	Western Woods Cree	<p>“Visiting the invalid in his tepee, the naked conjuror accompanied by his assistants with drum and rattle begins a song to contact the evil spirits which are believed to be present. Interrupting his singing at times to suck at various parts of the patient's body, the magician finally produces from his mouth a mass of animal claws, feet, and stones which he claims to have been the cause of the disorder. Dependent on the patient's psychological reaction to the exorcism as well as the occasional steaming sweat-baths, the methods of the juggler were quite often successful.” (Mason, 1967)</p>
North America (Southern Canada and Midwest United States)	Ojibwa	<p>“But someone did manage to kill me by sending something towards me that penetrated my body. That's when you need a <i>nībakīwininī</i> [an Indian doctor who tries to remove the object by sucking as part of his ritual]. Sometimes he will suck out a shell, a piece of metal, or a dog's tooth and show it to you. Then you can live.” (Hallowell, 1955)</p>
North America (Southeastern Alaska)	Alutiiq	<p>“The common procedure was to place the hands on the head of the sufferer and thus find out the sick spot, then putting the hands on the spot and acting as if something was removed and thrown away. Or she might suck the sickness out by her mouth and spit it into a bowl that was emptied into the sea. No sucking tube was used, and the</p>

		cause of the sickness was not shown to the public." (Birket-Smith, 1953)
North America (Southeastern Alaska)	Eyak	<p>"When a shaman is called in to treat a sick person, he is always paid in advance. The shaman never works for nothing and he can ask for anything he wants...Sickness was formerly attributed to witchcraft, and still is, though we do not know to what extent. Sickness may be caused by the theft of the soul or by the injection of some foreign substance into the body. The shaman can restore the soul by means of his song. He can also suck out the substance that is causing the illness. He will spit it out on something and exhibit it to the people. Afterwards the source of the disease is thrown away or burned up." (Birket-Smith, 1938)</p>
North America (United States Midwest and Southwest Canada)	Kutenai	<p>"Supernaturally caused illness was the result of an intrusive object, sent by a malevolent person, lodged in the body of the victim. The shaman used his or her power to first locate and then suck out the object, which assumed a tangible form upon removal. It was then placed in juniper smoke to "kill" it. It could be sent back to its source, if desired." (Brunton, 1998)</p>
North America (Midwest United States)	Blackfoot	<p>"The usual procedure in such cases is to suck or otherwise draw something from the victim's body which is then loaded into a gun and fired off, the belief being that the medicine at once returns to the one who sent it and entering his body afflicts him with the same injury. It is said that the medicine will reach him although a thousand miles away." (Wissler, 1912)</p>
North America (Midwest United States)	Omaha	<p>"Their method was to extract by sleight of hand almost any small material object from the part affected. It was generally believed that the doctor had extracted the object from the patient's body. Trickery was not suspected. The doctors themselves did not feel conspicuously that they were tricksters; rather they felt that they were sacerdotal ritualists engaged in a most solemn and sacred procedure, the details of which of course they must hide meticulously from all persons not in their society." (Fortune, 1932)</p>
North America (Washington)	Lower Chinook	<p>"Illness was considered the result of the intrusion of a foreign object, either inadvertently or through the agency of a malignant shaman, soul loss, or natural causes...If the diagnosis</p>

		<p>indicated an intrusive object the treatment was by rubbing, aspersion, drawing out with the hands, or sucking. Where no malicious cause was indicated one or more of the first three methods was used. If witchcraft were involved, sucking was the only adequate treatment...the mouth was placed directly against the patient's body. This was usually in the region of the stomach. Treatment was completed only with the removal of some concrete object such as a piece of bone, or often a bit of blood. After showing the audience that which had been removed, the shaman asked what disposal should be made of it. The reply was, "Drown him," "Burn him," or perhaps, "Shoot him." If drowning were requested the object was immersed in water; if burning, it was thrown in the fire; if shooting, it was pressed on the point of an arrow." (Ray, 1938)</p>
North America (Washington)	Quinault	<p>"The shaman sucked out the object either by means of a sucking tube (a bone about eight inches long) or by applying the mouth directly. (2) By means of rubbing and other manual manipulations the object was located or caused to move to an accessible spot and was then pulled out through the skin or one of the bodily orifices. The object (a pebble, a quartz crystal, or an insect) was then produced and exhibited to the patient and onlookers. Some of the objects were reputedly small animals or insects "which looked like big lice" or like maggots. These were killed after being extracted. Usually a considerable amount of blood was sucked out along with the object." (Olson, 1936).</p>
North America (Washington)	Twana	<p>"in cases of intrusion sickness, the treating shaman might symbolically dramatize disposal of the disease-causing agency extracted from the patient's body. This might be destroyed by burning it, cutting it in two, or smashing it, or it might be blown away in the direction of the nearest settlement of earth dwarfs (<i>təbta' baxw</i>) who would seize and imprison it. If the intrusive agency were "alive" —a shaman spirit not belonging to the patient or a slime worm or disease lizard—it was first plunged into a basket of water to weaken it before disposal." (Elmendorf, 1960)</p>

North America (Oregon)	Klamath	<p>“The “working” of a conjurer on a patient’s body consists in rubbing, pressing, magnetizing, in blowing on it, and in pouring water over the face or other parts. Sucking out the object which caused the disease is of course the principal operation called for to effect a cure...it is not stated whether this <i>hánshish</i> was a frog, a worm, a small stick, or any such thing; this is immaterial, for the Indian strictly believes that the article was removed from the patient’s body and that it caused the disease.” (Gatschet, 1890)</p>
North America (Northwest California)	Yuki	<p>“When a person became ill, a shaman was sent for; if one so called did not come, he would lose his power. A rope was stretched in the house, and on it beads, blankets, baskets, and other objects of value were hung, the material to be used in paying the doctor if a successful cure ensued. Dissatisfaction with payment offered provided grounds for refusing the case...Then he commenced to sing and dance, and finally sucked on the sore spot. The object extracted was usually not shown, though it might appear as a blood clot that was quickly thrown into the fire. This procedure was repeated on succeeding days, without conversation with the spirits, until either a cure had been effected or the patient died.” (Foster, 1944)</p>
North America (Northwest California)	Yurok	<p>“The practice of shamanism among the Yurok was based upon the belief that possession of “pains” within her body made it possible for the Indian doctor to extract similar ones from the bodies of her patients, thus relieving their illness. These “pains” are described as bloody-looking things, about the size of a polliwog (Erikson 1943:262), and it was generally believed that they were somehow shot into the sick person’s body through sorcery. In curing, the shaman actually sucks these “pains” from the body of her patient and displays them for all to see.” (Keeling, 1992)</p>
North America (Northeast California)	Northern Paiute	<p>“Some doctors could suck out objects. They were reddish brown like pieces of meat. We watched closely because some had things in their mouths and pretended to take them out of the patient. A good doctor asked everybody to look at the things he sucked out. If a person swallowed them they made him sick. Some who did not</p>

		believe swallowed them, and sickened immediately. A doctor swallowed the objects he sucked out; they did not hurt him (JB)...Only the best doctors could suck out things. When a doctor took out a snake or a bug he held it up for everyone to see, telling them when the patient would be well (P)." (Kelly, 1934)
North America (Southern California)	Yokuts	"When she was a young woman, J.A. had measles, "she nearly died." Her mother sent for Sapagai who came and brushed her off with his hand feathers. The sickness, which "looked like insects," he squeezed off the feathers. He cut and sucked at the top of the sternum. She recovered soon after...Sumtiwis (Bob of Bobtown) and Tutya (Pony Dick Watun) are the only doctors left (1929). The former diagnoses by holding both wrists of the patient. About a year ago J.A. suffered from bad headaches; she went up to Sumtiwis. He cut over the inner extremity of each eyebrow and sucked out blood and a little white pointed object from each incision." (Gayton, 1948)
North America (California)	Pomo	"The sucking doctor uses certain ritualistic formulae, and effects his cure by sucking out through the patient's skin the supposed cause of pain or illness...Any patient would ascribe his recovery mainly, if not wholly, to the efficacy of the songs and of the ritualistic formulae of the outfit doctor, or to the fact that the sucking doctor had actually sucked out through the skin the "poison" which had been making the patient ill. He would, in fact, assure you that the sucking doctor had displayed to him a stone, a snake, or some other material object which had been sucked out through his skin and which had been the cause of his illness. Thus, driving out of the patient a malevolent force through the efficacy of the ritual of the singing doctor, or the extracting of one of these "poison" objects by the sucking doctor, assured prompt and speedy recovery." (Barrett, 1952)
North America (Southern California)	Tübatulabal	"After extracting the disease object, which often looked like a spider, worm, or clot of blood, the shaman oftentimes gave his patient certain practical advice, such as to move from the dwelling house where he was staying, or to take certain herb medicines... Disease objects either

		animate, inanimate; MM had had “something black, that looked like a spider, 3/4 in. long, with lot of legs that wriggled as though the thing were alive” sucked out of knee, together with blood; sometimes dry blood, small stone sucked out, or lizard-like objects.” (Voegelin, 1938)
North America (Eastern Woodlands)	Creek	“In these cases, scratching or cupping is the remedy; or, as is often the case, sucking the affected part with her mouth, she produces to their view some fragment of a bullet, or piece of a wad, which she had purposely concealed in her mouth to confirm the truth of what she had asserted; after this, a few magic draughts of their physic must be administered, and the patient is made whole.” (Swanton, 1928)
North America (Upper Missouri)	Assiniboiné	“The doctor slowly approaches the patient, applying his mouth to his naked breast or belly, draws or appears to draw therefrom by suction a worm, sometimes a bug, a wolf hair, or even a small snake, making at the same time horrible gestures, grunts, and grimaces. This object he displays to the lookers-on, stating he has extracted the cause of the disease.” (Denig, 1930)
North America (Northern Plains)	Crow	“Returning with a successful war party, my friend was walking behind the bearer of the staff to which the slain enemy's hand was tied. Suddenly this hand struck Gray-bull on the ear, and he became deaf. When he got home, the woman doctor took him into a sweat-lodge, stuck her pipestem into his ear, and sucked out a little red stone. This, Gray-bull believed, the enemy's ghost had put into his ear; naturally he recovered his hearing.” (Lowie, 1935)
North America (Northern Plains)	Gros Ventre	“Various diseases were attributed to some small object, such as a sliver of wood or a finger nail, that had been projected with malicious intent into the victim's body by some human or preterhuman being or that had otherwise found entrance therein. In particular the disease called “cut away,” <i>wano:’wa</i> , probably cancer, was caused by the presence in the victim of a kind of “bug” or “animal,” roundish in shape, and with a big mouth. This “animal” would move around within a person and “eat his insides.” Bad Bull, a medicine man who had power to cure “cut away,” used to extract from his patient such an “animal” of green, yellow or black color. “The

		<p>black ones were not so bad,” according to Singer. According to The Boy, Bull Lodge whom he knew well, in his doctoring for “cut away” would take out such an animal from the belly of his patient. The animal on one occasion at least was about four inches long, seagreen on top and whitish on the belly (or green on one side and white on the other, according to Garter Snake) and without legs or eyes. About one half the animal was mouth, with no teeth, however, in the mouth. In one cure, Bull Lodge ripped open the animal after extracting it and showed the onlookers what was inside it. “It was full of blood, with some things floating around in this blood.” Bull Lodge claimed that this animal, unless extracted, would “eat up the sick person’s liver or some other part of his insides” and so kill him. He used to say that this animal caused all stomach troubles.” (Cooper, 1957)</p>
North America (Great Basin)	Ute	<p>“Pa’gitš’ “specialty” was the treatment of acute pain, and he said that he could cure pain in any part of the body. He said that he took from the patient’s body a “strange something,” sucking it out through the skin. Then he took it from his mouth, held it in his hand, and showed it to all the people, after which he put it again in his mouth. As soon as this substance was removed from the patient’s body he began to recover.” (Densmore, 1922)</p>
North America (Southwestern United States)	Comanche	<p>“The sucking was done through a small horn prepared for the purpose, which was placed over the incision. The doctor would spit out whatever he sucked from the wound. The clever medicine man might show the patient some small stones, which he had placed in his mouth, and pretend that he had sucked them from the wound with the aid of his spiritual power, claiming that the stones had been the cause of the pain.” (Wallace, 1952)</p>
North America (American Southwest and Mexico)	Eastern Apache	<p>“At the proper time (usually the fourth and last night) and under the direction of his supernatural sponsor, he sucks out the object of witchcraft with his lips or a tube and spits it into the fire, where it “pops.” As the sorcerer’s “arrow” falls into the fire, the onlookers spit, thus symbolically ridding themselves of things unclean. Objects of many kinds are sucked from</p>

		the bodies of patients: “A bone, a stick, horsehair, a needle, human hair, a little buckskin pouch, a spider—these are the kinds of things taken out.” (Opler, 1941)
Central America (Honduras and Nicaragua)	Miskito	<p>“Rheumatism...is supposed to be caused by thorns or fishbones which have been introduced into the flesh by evil spirits. The <i>sukya</i> pinches and kneads the afflicted spot, then makes a small incision with a glass splinter and, applying his mouth to the wound, he sucks a little and finally produces a prickle or bone, which he had carefully hidden between his teeth.”</p> <p>(Conzemius, 1932)</p>
Caribbean Sea (Dominica)	Island Carib	<p>“When they are called to cure some swelling which has developed on the knees or another joint, they suck the spot and draw the evil out by sucking — that is what they say. Sometimes they spit out stones, tips of arrows or ray tails, etc.</p> <p>The <i>boye</i> invents the story that the god of another <i>boye</i> has shot the arrow into the sick person and caused the affliction. The patient firmly believes this, as do all others who think they have been cured by this means. If they have some nice caracoli ornament they are expected to give it to the <i>boye</i> as a reward...” (Breton, 1665)</p>
South America (Orinoco)	Warao	<p>“the <i>hebu-mataro</i> rattle is used by the <i>bahanarotu</i> to remove any object that is either large, or long and flexible, such as a wire or a cable. The rattle functions as a helper to the <i>bahanarotu</i>, much like a “key to open a door.” He places the rattle over the body where the object is, and the rattle itself extracts the object.” (Olsen, 1973)</p>
South America (Amazonia)	Ticuna	<p>“The sick person has recourse to a shaman, whose first care is to see in a dream the perpetrator of evil. Afterward, by feeling the patient he locates the thorns and extracts them by sucking.” (Nimuendajú, 1952)</p>
South America (Amazon)	Mundurucu	<p>“The shaman quickly applies his mouth to this point and sucks noisily at the patient's skin. He then draws away and deftly removes the <i>cauši</i> from his mouth, into which he has supposedly sucked it, and holds it out in his open palm for all to observe. He examines it with great care for some time and throws it into a fire, where it is thought to be completely destroyed. The object exhibited by the shaman is usually a small piece</p>

		of wood or the pit of a palm fruit. The sleight of hand involved apparently requires no great ingenuity, but everybody is firmly convinced that the shaman has really extracted an evil object from the patient. I was unable to induce any shaman to reveal the innermost secrets of his art, but I am convinced that the shaman, too, believes that he extracts <i>cauši</i> , elusive though his reasoning may be."
Northern South America (Guyana)	River Carib	"If a man suspects that he has been the target of a <i>piaiye</i> , he may consult another <i>piaiye</i> , who will endeavor to remove the object from the patient's body. Practically speaking, this means that the supposed victim feels pain in a certain part of his body. He goes to a <i>piaiye</i> who explores the spot with his hand and locates the offending missile. He then blows tobacco smoke on the spot and sucks out the stone, if it is there." (Gillin, 1936)
Eastern South America (Brazil)	Nambicuará	"The treatment consists of three operations: throwing the arrows around the sick person to carry away the spirits; sucking the body to force out the cause of the illness; this cause is thrown far away when it has been captured...throw, throw far away the little thorns sucked with the mouth, throw away [the evil]." (Lévi-Strauss, 1948)
Eastern South America (Brazil)	Bororo	"Then, if the cure is foreseen, after having hidden a small stone, a <i>Coleoptera</i> , or something similar in his mouth, he presses his lips against the ailing part of the patient and proceeds to suck it. He says that the ailment, the illness, the object which produces it, comes to his throat; then with a strong cough he passes it on to his mouth, takes it in his hand, and shows it to the sick person, telling him: "be calm, because the evil -- <i>jorubbo</i> -- has been taken out." If the discomfort persists, it is because, according to the <i>bari</i> , the sick person had many harmful objects in his body; when one was extracted, others remained." (Colbacchini, 1942)
Eastern South America (Brazil)	Canela	"The medicine-men may apply methods besides the above-mentioned infusions and charcoal rubbings. I have several times seen Chief Haktökót, possibly the most powerful medicine-man of his tribe, sucking disease out of a patient's body; or, more precisely, heard him, for

		his treatment was always shrouded in darkness and became perceptible only through a horrible sipping sound. The doctor never exhibits the extracted object, for it would strike the spectator with blindness...Others are said to remove sickness with their hands and to throw it away in the direction of the wind. Blowing on the body also occurs for remedial purposes. The doctor is compensated only for successful treatment." (Nimuendaju, 1946)
Eastern South America (Brazil)	Karajá	"The doctors (<i>kōlū</i> , <i>kaūduwāū</i> , according to Ehrenreich, <i>kahotebādo</i>) carry on their practice by means of magical performances, singing, swinging rattles, sucking out the morbid agent, massaging, beating with switches which have electric-eel bones attached at the ends, as well as by the utilization of medicines to be used internally and externally." (Krause, 1911)
Eastern South America (Brazil)	Tupinamba	"They also make them believe that by blowing on the aching part of the body they can cure them. That is why the Indians who are sick go to them, and showing them where the pain is, the <i>pagé</i> begin immediately to blow, putting the mouth against the affected part, they appear to suck and draw out the bad, then spitting on the ground they make them think they are cured. Sometimes they hold in the hand a small bone or stone or piece of wood or iron, and blowing on the affected part of the invalid, they show what they have in their hand making them believe that it has come from the infection, and it happens very often that the patient is healed whether by imagination or by superstition and diabolical art." (d'Abbeville, 1613)
Eastern South America (Brazil)	Terena	"If a foreign object was causing illness the shaman would suck the painful part of the body, later removing the object from his mouth and showing it to the patient and those present. These objects were usually said to be pieces of bone, sticks of wood, or worms."
Southeast South America (Brazil)	Xokleng	"For devouring there is no remedy—once a person is eaten, he is consumed and that is all, but for shooting there is a cure, and that is extraction of the missile, a reddish, wormlike object. Anyone may summon back a wandering soul or even cure sickness with an infusion of herbs or of bark scrapings, but only a shaman

		who has seen supernatural <i>Pain</i> can extract <i>thêyê</i> , the missiles which are shot into people by the monster <i>Yunggi</i> or by <i>Pain</i> ." (Henry, 1941)
South America (Bolivia)	Sirionó	<p>"One of the women, a Sirionó, had been married to a Guarayo brujo and evidently had learned some of his skills...The woman from Salvatierra had gone to visit the sick child and had convinced the mother that, for a fee, she would "suck out" the foreign objects in the child's body that some enemy of the mother had supposedly put there. The bruja placed her mouth over the baby and extracted several thorns and nails by "sucking" them out. The mother and others present were awed by her performance. Hours later, the baby died. The bruja claimed that the evil was so strong that she had not been able to extract it all." (Stearman, 1987)***</p>
South America (Bolivia)	Chorote	<p>"they laid themselves down and sucked hard at my chest, in particular at the spot where I had complained of the pain. After having sucked for a while, they turned away and pretended to vomit. Whatever they vomited up in this way, they did not show me, but, as they squeezed it between their fingers, it looked as if they had been squeezing worms." (Rosen, 1924)</p>
South America (Bolivia and Argentina)	Mataco	<p>"Ultimately the doctor again leans over the patient and starts to suck vigorously the bad spot. He turns away, spits and hawks up and behaves as if he were going to vomit. Thereupon he takes something from his mouth and, turning to the bystanders, shows it to them: it is the arrow, consisting of a pebble, a piece of bone, etc. which he pretends to have extracted from the patient's body. The latter should now recover; but it may be that there are several of them in his body, or that a new arrow is sent into it which he will feel on the following night. Generally therefore the treatment must be continued for several evenings." (Karsten, 1932)</p>
Southern South America (Paraguay)	Enxet and Enlhet	<p>"The doctor then begins to spit on and to suck the man's stomach over the painful part, to the accompaniment of an excited though monotonous chant from his assistants. Rattles are also used. After some time the doctor produces, as he is sucking, a beetle, or a palm nut, or a fish bone." (Hawtrey, 1901)</p>

Southern South America (Paraguay and Argentina)	Abipón	“The curing of a disease or injury was effected by the shaman (juggler) through alternate blowing and sucking on that part of the body which was in pain. Dobrizhoffer notes that secretly the shaman would put thorns, beetles, worms, etc., into their mouths, and spitting them out , after having sucked for some time, would say to the patient "there is the cause of your disorder" (Dobrizhoffer, 1822, 251).” (Beierle, 2010)
Southern South America (Argentina)	Tehuelche	“The ordinary curing procedure included sounding of drum and calabash (Sánchez Labrador, 1936, p. 127) or hide rattle (Coan, 1880, p. 153), and sucking out some small material object as the cause of the disease.” (Cooper, 1946)
South America (Tierra del Fuego)	Ona	““She immediately started to sing, placed her mouth on the painful spot, and drew out very much blood. The pains promptly subsided, and since then I have felt nothing more, to this day I can walk very well. That woman sucked a great deal of blood out of me, but I saw no wound on my thigh. One detects here neither traces of a scar nor of a bite. That is how well this woman was able to cure me and other people!”” (Gusinde, 1931)
South America (Tierra de Fuego)	Yaghan	“Hence the shaman must work his cure by removing some foreign object lodged in the body of the patient through accident or malice.” (Lothrop, 1928)

*As the Mbuti solicit this service from their agriculturalist neighbors, it may be questioned whether it represents a traditional behavior, however interactions between the Mbuti and their neighbors are complex and have a long history (Turnbull, 1965).

**The Tiwi doctor may have learned this trick while employed abroad as a pearling lugger, therefore it may not represent a traditional performance.

***The performer in this case is thought to have learned the trick from her non-Sirionó husband.