LAGOTHRIX LAGOTRICHIA
There are a couple of Woolly Monkeys here. Adult female separated from one another. Each one in a cage with Spider Monkeys.

One adult female seems to be quite annoyed by my presence. Either stands (on all fours), facing directly away from me, or walks about his cage. This running usually culminates in a rush toward the front of the cage, i.e., toward me, and then very vigorous, "straight-legged" repeated jumping up and down. Again on all four legs. (This species doesn't seem to stand erect as much as the Spider Monkeys). This jumping up and down is obviously very aggressive. Observing the same thing as the jumping up and down which is done by a lot of wild monkeys, more or less in association with breaking and chewing branches, as a reaction to intruders.

It may be significant that neither this Woolly nor the other one which has shown traces of similar behavior, has uttered any sound during these performances. Nor has either of the animals done any fur!!

One thing that the adult male Woolly has done is a lot of lip and mouth movements. When apparently just slightly liable to me, he draws his lips "back", to bare his teeth. At apparently higher intensities, when becoming more aggressive, he starts to "champ" (chew), moving his lower jaw up and down quite regularly but not very rapidly, in what are obvious biting movements or biting out noises. Once this was continued...
Lagotrix lagotricha, Oct. 23, 1958

with rhythmical protrusion of the pink tongue, quite like that of the
Panama Tamarins. Once, instead of chirp, this little bird one of
the bars of his cage and held on for several seconds.

The other adult seems to be brighter and has done quite a
lot of feeding with the Spider Monkeys in its cage.

The day before yesterday I watched two new young Woolies
in a cage in a pet shop in New York. One of them was also held
by itself.

The young Wooly walked around its cage nervously when I came
close and uttered sounds like the B notes of the Black Panamanian
Spider (oris), but softer and with a sort of "clucking"
quality. Not uttered in long series, just sung on in little bursts
of two or three notes. I shall call this "B" too.

One of the Woolies has held I wrote a Spider but the other,
who has only shown a trace of "Sing", has always done it by himself.

Lagotrix lagotricha, Dec. 15, 1958

There was a very small baby Wooly (♂♂) which I haven't
been watching too awfully closely, but I have noticed a couple
of things.

It wiped its face clean with a soft piece of wood shavings from
a drinking well.

When walking along a branch, it often keeps all its fingers
pinned together, or divides them 2-3, like a Howler. The wooden
bars of the cage are rather diamond-shaped in cross-section. Which

They brought in a new, very young, woolly this afternoon. It has been much more usual for them to try to cling to something, its mother and then its cradle, all its life. It clings to humans like crazy.

The minute one takes it off a human, it gives loud, hoarse long-drawn-out notes, one right after the other. I shall call these screams too. These are obvious reaction to being separated from the mother. Certainly not hostile at all.

Then, if it is put back on someone, or is left to calm down gradually by itself, it gradually stops the screams and begins to give the full, instead. These are obviously homologous with the calls of Atis, and presumably the Skull's of many other species, but in this species they completely lack the whistling quality of the Skull's of many species. Sounds rather wooden & hollow. Sometimes they are really, really woodlandy. Sometimes the "Syllables" of the Skull are fairly widely separated, sometimes so much so that the whole thing sounds almost like a series of "Chirp" Notes.

When the animal gives three Skulls by itself, they are not accompanied by any ritualized movements (except PL — see below). When it gives them while clinging to someone, however, they are apparently always accompanied by a quick lateral vibration of the whole head, while the head is pro...
against the body of the person holding the poor animal. In nature, this movement (which I shall call V) would presumably be an attempt to lever oneself under the fur of the mother. It is not an attempt to get at a teat. The animal does not do V when it is feeding, or trying to feed, from a bottle with a nipple.

When the animal is clinging to someone, the slightest touch will induce it to begin Still's plus V. Then, if the touch becomes a real attempt to lift it up, it begins high intensity screams again.

These facts would suggest that the Still is largely a low-intensity version of the scream.

It is possible that the Still's uttered when the animal is clinging to someone are more often completely trilling than the Still's given when alone (the latter more often consist of a very few separate syllables).

At still lower intensities, the Still seems to be replaced by notes which seem to be homologous with the Squ, and tireless, huge monosyllabic notes not infrequently but irregularly repeated. Some of these are pure squeals, but others sound almost like the MG's of other species. (This species has a comparatively bass voice in almost all its calls.) These Squ notes tend to occur after Still's have declined, after screams have declined. It is this that would suggest that the Squ Notes are just lower intensity than the Still's.

There is other evidence to suggest, however, that the differences between the Squ, Still, and scream patterns of this species are something more than mere intensity, at least in some
cases. In the first place, a slight touch on the young Wooll when it is clinging to someone does not produce sound, no matter how light the touch may be. In the second place, when the Little Wooll is sitting by himself, half asleep, a long time after being taken off someone, he may utter a melody of squawk notes and related weak, roundling screams. In other words, the relationships between these three patterns may be somewhat as follows:

![Diagram]

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The older young Wooll, the one that has been in the compound for some time, behaves rather differently. It is a stranger and quite used to living by itself, showing no tendency at all to cling to human beings. (It does when I come close instead.) It gives the same calls as the new young, but in rather different circumstances. It doesn’t give squalls and screams when left alone, but it does give squawk notes when it is picked up and held in the hand (i.e., almost the reverse of the behavior of the new young?)

The way this usually works is as follows: It starts to scream as soon as it is picked up. After a while, if it is held firmly but gently, the screams gradually stop and are replaced by squall's. Then, if it is put back on the ground, it starts to scream again at whoever has been handling it. These in turn die down and are replaced by squall's.

Sometimes, the squall's by itself may be followed by one or
two Squ Notes. This may occur both when the animal is still being held in the hand and after it has been put down again, usually after the Still's have declined over a long time. It is evident, however, that this gives Squ Notes much less frequently than the new S.

These noises & Still's (at least) of the ♂ are obviously produced when the animal is not hostile. As some of the S am obviously produced when the animal is not hostile, this would suggest that these calls are really generalised stirring reactions. One might add that the two animals are almost exactly the same age and presumably the same age.

One or twice, when the young ♂ has been forced to sit by himself, after he is half asleep, and only uttering an occasional squawk-sounding scream, and perhaps an occasional Still he has suddenly uttered one or two lange, pure whistle-like notes. These sound like particular prolonged versions of the highest pitched type of Squ Notes, to which they are almost certainly closely related, but they also sound very much like the W Notes of the Tamarnis, although they are less plaintive than the W's of my Panama Prichie's. The animal has always been looking straight at me, in a rather "longing" fashion, when it gave these notes, and I wouldn't be surprised if thet actually were strictly homologous with the W Notes of the Tamarnis. I shall call them W for the time being at least.

The two young Woolies have shown absolutely no reaction to one another so far. If anything, the ♂ tends to move away a little if the ♂ accidentally comes near.
All the Stills' and Squ's of both Woodlarks seem to be nec-
compactly more or less of P2.

It is obvious, I think, that there must be some qualita-
tive differences between the motivations of the Squ, Stills', and
creeds of this species. It is possible that, in the case of lattes,
that the Stills always normally contains a relatively strong es-
cape component than the other two anatomical calls, but I
have little evidence to support this hypothesis yet in this year.

On the other hand, I certainly have no evidence against it.
The behavior of the young of squint generally support the theory that
the Stills is something of an alarm pattern in many cases. The way
in which she reverts to screams when put down on the ground,
after giving Stills' will the hand squint indicate that putting her
down reduces the escape drive, permitting her to remove the relat-
ively aggressive screaming.

Lagostroix lagotrubus, I. December 17, 1958
(Qutos)

Continuing to watch the same animals as before.

I am now certain that the Stills' quin by the young is
with V, when he clings to someone, are usually (but not always)
more thrilling than the ones usually quin by animals alone. In some
cases, then Stills' and V are almost "murmuring."

At highest intensities, the screams uttered by the young when he is left alone, may become somewhat different from anything
described above. They become high pitched & clear (not hears.
like the usual screams) "keening" noises. They tend to occur in the following situations: The young I may hang on to the side of his cage, looking at me, and giving the ordinary type of screams when I put across the cage from him. Then, when I get up and walk quickly out of the room, his screams first become louder, more urgent, sounding then quickly change to the high-pitched clear keening, almost whistling type. This stops again as soon as I pass from view. I shall call these high-intensity clear notes W screams. They are somewhat reminiscent of the W or LW of the Prickle's (and may also resemble some, but not all, of the same functions).

Both the Still and Squaw are also quite variable in pitch, ranging from high-pitched squeaky or whistle-like sounds to quite low-pitched hollow types. So I think that it would be very difficult to really diagnose these sounds, and the screams, by their pitch alone. Actually, I suppose that one could almost divide all the calls of these young woollees into just three main types: short, broken, and long.

One thing about these young woollees is that they all (there are 3 now, as another baby has been brought in) prefer to sleep curled up on the ground (like my young spiders on BCI) rather than on the bars or perches. Well the other monkeys I have studied (capuchins, sali's, squirrels, tittes, night monkeys, tamarins, etc.) prefer to sleep up in the air, just holding on to some support. Is this merely a function of size? (The young Woollees are relatively heavy, chunky little things, with relatively large head and body.)
A new 2 was brought in today. About ½ grown, I think, much larger than any of the other Woolles here. I shall call him B. He seems to have been a pet, as he still wants to cling to people.

His vocalizations are rather different from those of younger or Woolles. And it is probably quite justifiable to compare his behavior with that of the young 2 I studied before, the one that clung so practically, which I shall refer to as "A" from now on.

This B also becomes very vocal when he is left alone, when someone else begins to move away, or even when one just begins to move off oneself. But he does not have a real "scream" like A! The "screams" like A's, but all his means, even the highest intensity ones, are broken up, have become still like or R-like. At moderate to high intensities, these notes, which I shall call "L-Fill" are quite long, including a lot of "syllables." The moderate intensity L-Fill is the one he gives when I take him off my lap and remain in the same room, are quite coarse and deep in pitch, rather similar in quality to the usual "scream" of A. At the very highest intensities, however, when I actually start to go out of the room, they become very clear, high-pitched, almost like the W-scream of A, yet also A-like. I shall call these W-Fill's. I am sure that all these L-Fill patterns must be directly descended
from the breen patterns of younger animals.

It is quite possible that the Lill of B has become definitely hostile, or, at least, that it contains a hostile component in some circumstances. When I take him off me and put him on the ground, for instance, he always begins to scream Lill's at the top of his voice, and then always backs rapidly away from me! This seems to be quite inevitable and automatic under the circumstances, and is presumably an indication of an activated escape drive, but if I move toward the animal, he immediately stops backing away, runs toward me, climbs up on me, and stops Lill-ing!

Both the breen patterns of young animals and the Lill of B are done with wide open mouth (see sketch in pad), and several breen or Lill's can be uttered in rapid succession without the mouth being closed between notes. When series of other notes are uttered, however, the mouth is always or usually partially or completely closed between successive notes.

When B is taken off me and put on the ground, his Lill's gradually decline after a while and are replaced by a pattern which is obviously descended from the STill's of younger animals. But these are almost always completely or almost completely broken up now. — — — instead of really cutting. The separate notes of this pattern, which I shall now call "BSill" are still very wooden & hollow-sounding, like the syllables of the most broken-up type of STill of younger animals. Baldo does B's with this very frequently (see sketch).

When B is picked up, after having given Lill patterns, they usually stop almost immediately. They may decline though
a few BS Fill's, but they are usually replaced immediately or almost
by series of rapid soft murmering quants. They are obviously
descended from the particularly trailing type of BS Fill uttered by
young animals in the same circumstances, but they have also
become "broken up" these very rapid little murmering quants
(which I shall call "CG") are very different something new from
the BS Fill's.

These CG's are definitely not accompanied by the slightest
line of V. V seems to have disappeared completely.
B probably does with a few squawk notes still, but they are
relatively rare (and it would be difficult to tell the lower pitched
type of squawk from a single syllable or note of a BS Fill.)

Lagotricha lagotricha, Dec. 17, 1958

I must modify a little but what I said yesterday. B is
still capable of giving BS Fill's like a young animal (both the low
pitched a high pitched squeaky kind), as well as BS Fill's, when
one goes away to leave him alone.

I forgot to mention that A did a lot of Hold by himself
during the first few days after his arrival, after one left him alone.
He did much more than the other young Woolies in spite of the fact
that he didn't seem to be alarmed by anything. This might sug-
cut that the Hold can also be a general frustration reaction ??

None of the Woolies (and we have 7 now) paid the sli-
ghtest attention to an oclock in the next cage.
I have now seen another very young Woolly do V (4 Sill) when it climaxed on to another monkey. So the pattern is really characteristic of the species.

This species seems to have an MO pattern of sorts. At least all the Woollies here sometimes leave the mouth open, usually with B, when they fall silent after a scream or still pattern of some sort.


More modifications of what I said earlier. There is another Woolly here the same size and presumably the same age as B and it is quite capable of giving a complete, well-integrated high-pitched loud scream, like that of all the younger Woollies when it is pulled up in the hand. No trace of an tendency to break up into trills or separate notes.

One of the smallest new baby Woollies spends most of its time clinging to a just slightly larger Woolly. When I touch the little one when it is clinging, it immediately utters the soft, particularly trilling little Sill's that A used to give when touched when clinging to me (see p. 4). At the same time, the little animal does V into the slightly larger animal to which it is clinging. This is further confirmation that these Sill's are given when the animal feels it is "in support" with its "parent" but is just slightly disturbed by something (see also today's notes on Callicebus).
Lagotrichia Lagotrichia
December 26, 1958
Zoo, Lima.

There was one big fat full adult here, in a large cage with a bunch of Tafted Capuchin. Quite sluggish in early afternoon, more active later on.

He also clapped branches with his fingers divided 2-3 like the young animals in Squirrel. I noticed, in addition, that he showed a slight tendency to "brachiate" in moving about a large dead tree in the cage, just a slight tendency in the direction of apes.

He got into a dispute with one of the large. Uttered a rapid series of shortew wooden-sounding notes, which might be transcribed as "Who who who uh..." (each note ending sharply, almost like a Scottish "ch") as he faced his opponent, with slight nit maneuvers. Retreat. I think those notes were probably an L full. Then he began to retreat, backward, quite rapidly, as his opponent advanced, and his L full was succeeded by definite long-drawn screams. Some of the screams were fairly low-pitched & hoarse, but most were much higher-pitched, sounding like very loud low-pitched whistles. It is possible that the animal gave the whistle-like screams when the retreat was most vigorous. They may contain a stronger escape element than the hoarser screams, but I rather doubt it. I think that they are just higher intensity. The whistle-like screams, incidentally, were far more common than the lower-pitched hoarse kind. All the screams were given with the mouth wide open, like the you
agger animals in Quito, and this seemed to be accompanied by a definite drawing back of the lips to show the teeth in a form of BT.

Later on in the afternoon, when the Tufted Capuchins began to give their RBB (see today's notes on Cebus apella) the WOOLLY also gave a couple of bursts of what appeared to be an exactly homologous pattern which I shall call by the same name, but with head facing straight ahead, (note: perhaps a bit tilted forward a little ??), with definite PL, and uttered a whole series of deep hoarse barks one right after the other. This might be transcribed as "Arh arh arh arh arh...." ————

The actual sound of this performance was quite reminiscent of the long series of B Notes the L. Panama Black Spider Monkey used to give toward us when it was greatly excited. The WOOLLY here, however, did not seem to be very greatly excited during the RBB (he was certainly not engaged in any obvious violent dispute with any of the Capuchins). His whole RBB, in fact, was very reminiscent of the Howling that Howlers may do without any very obvious stimulus!!!

Several times during the afternoon this WOOLLY uttered single, very abrupt barks which were very reminiscent of the alarms of the White-faced Capuchins in Cattunga.

LAGOTRICE LAGOTRICA, 1 September 24, 1957
London Zoo

There is a single apparently adult of WOOLLY here in a small
cage. Also a pair, a fully adult A and a probably slightly sub-adult 
B in another small cage about 20 ft away. I shall call the single 
A, the B of the pair B, and the C of C. A cannot see B or 
C, or vice versa, but they can all hear one another beautifully.

This morning A was sitting hunched up in his cage. This may 
have been an uninterrupted interval, or it may just have been resting. In this 
position every once in a while he would open his mouth and utter a 
short very loud and long "Eeeeeeceeeeee -- yuh!" noise. More 
ones
it was quite whistling-like in quality -- but like the steam whistle of a 
factory. I shall call the noise SW.

The SW always provoked some response by other monkeys. 
A nearly ignored. Monkeys a loud shrill clear whistling "Eeeuh!" 
the entire Sill? -- when the A Whoole gave the SW. And the C
Whoole usually or always uttered a couple of high pitched squealing 
notes or its brief "Eeyuh!" B Notes -- see below. The way in which the 
SW could provoke responses made me think that it might be an alarm 
call of some sort.

I wonder if this SW is what Sanderson describes as the 
"shout"???

Every once in a while this morning C has uttered a brief single 
B-type note. Quite loud, but also quite high-pitched. Might be 
transcribed by something like "Seyuh!". I shall call this "E B" for the 
time being. Usually just uttered when the animal is moving more or less 
calmly about its cage -- difficult to tell what provoked the note. 
But also occasionally quick as a response to the SW's of A.

A couple of days ago, B + C had a long "playful" wrestling 
match. Obviously not very strongly belligerent as the animals made no attempt to hurt one another. Their wrestling was accompanied by long 
series of "whispered" B notes, uttered very rapidly one right after the 
other. I shall call these notes "Play B".

Both A and B have very definite Hold patterns. Both mono-
als go into an extreme Hold Position whenever I come close to their cages.
— with early morning (they don’t do it when I approach in the afternoon, presumably because they are accustomed to visitors by that time).

The Woolly Monkey seems to be the only species of Cebus which has retained Hold as a continuous, regular, adult pattern. It is also fondemon. In all other species, it seems to be an essentially infantile and juvenile pattern.

B’s Hold’s are apparently always accompanied by peculiar breathing sounds when I really come close to his cage. The prolonged, heavy, exhalations. At the same time his back “browses” with each exhalation. The exhalations are really almost mordently loud: “Hrrrrrrrrr”.

B’s Hold’s are certainly not cataleptic! If I remain quiet he immediately raises his head a little above his folded arms and makes a look around to see if the larger has moved. If I am still around, he immediately puts his head down behind his arms again.

A’s Hold’s, today at least, were also accompanied by peculiar breathing sounds. But these were uttered in a rapid, almost fitful rhythm: “Hhaa hhaa hhaa hhaa...”

Both A and B usually wrap their tails tightly around the body during Hold. A couple of days ago, when B was in a particularly high intensity sustained Hold, I noticed that he repeatedly raised a lowered (i.e. curled back close to the body) the very tips of his tail (the last 2 or 3 inches) all during the period I remained watching him. These movements were quite similar to the “lashing” tail movement, frequently performed by cats before pouncing.

September 26, 1959
London Zoo

I watched A doing more Hold again this afternoon. It soon became obvious that the rapid “rattling” breathing sounds he makes during Hold are really a very, very soft version of the Play B I have heard uttered by adult B & C.
LAGOTHRIX LAGOTRICA

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General Comment. Vocal repertoire: infants; 5, 7.

5. Associated with S-Tell's; 4. Intergrading with B-type notes; 4, 8.
Not uttered by clinging infant when disturbed; 5. Presumably lower in
tensity than S-Tell's; 4, 5, 6.
By juvenile; 5, 11.

Wltl. By infants. Description; 6. Like W of tamarins and pri
che's; 5, 6.

S-Tell. Sometimes loud, but not wooden.
By infants. Description; 3, 4, 5, 8. Accompanied by PL when in
fact isolated; 3. Accompanied by V (and PL? 7) when infant clinging;
3, 7, 12. General comment; 4, 7, 12. Hostile; 5. Intergrading with
screams as intensity of frustration increases; 4, 5.
Tell's almost like TL, by clinging infant, with V, 7.
Ordinary S-Tell's by isolated juvenile; 11.
"BS-Tell" by juvenile; 10. Lower intensity than LTell? 5, 10

LTell Wooden
By juveniles. Description; 10. Like screams in quality; 9.
Like W screams in quality ("WL-Tell"s); 9. Hostile; 7, 10.
By adults; "Uh uh uh uh uh .... " 13. Obviously hostile.
LAGOTHRIX LAGOTRICHIA

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LhCrOTHK! 
L* (rOTf f  
W <***. 
Noe f  
A f  
fL


By juvenile, 12.
By adult, with BT, obviously hoarse, 13.

W Screams. Particularly clear and high-pitched screams uttered by isolated infants. Attempts to "call in" parents? Lost call?

Description, 7. Comparison with W and WI of tammarins and primates.

S. W. By adult alone. Like Eeyuh Whiteface. Alarm call?

15.

EB. "Eeyuh." By sub-adult. Sometimes as response to SW.

15.

ALB. By adult, 14.

RBB. "Arch arch arch arch..." By adult, with BT, 14. Reminiscent Howling of Howlers.

WhB. "Whispered B" Notes. By infant, 2. By adult, with Hll, 16. By adult, 2 and sub-adult, 2, during "play" wrestle.

Wg. 15. "Murmuring" Quants, by juvenile, 10, 11.
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"Heavy Breathing"  By adult, with Add. 16. Possibly closely related to WHB.

Chomping  By adult, obvocally aggressive, with BT. 1

BT  By adult, silent. 1. By adult, with scream. 13.

Rhythmic Prehension of Tongue  With Chomping. 2.

PL  By infants, with Still and Squ. 7. By juveniles, with BS. Hill. 10

ML  By infants and juveniles, silent, with PL, after screams, and Hill's, 12.

V  By infants, 3, 4. Last by juveniles. 11

Jud.  By adult, 1.


Wh. by adult, 16. With WHB, by adult, 16.

"Play" Wrestling  Adult 2 and sub-adult 7, with WHB. 15
LAGOTHRIX LAGOTRICA

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- Use of hands. Teler Howlers, 2, 13


- Comfort Movements. Infant wiping face with piece of wood.

- Sleeping. Infants prefer ground, 8.