

ORIGIN OF LANGUAGE

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IN articles in *Nature*¹, I have set out the conclusion that a great part of human speech originated in the speaking organs' unconscious imitation of the gestures of the human body, especially the hands. The three articles dealt only with Ide. and Hebrew (as representative of the Semitic group). I have continued my researches and this time chosen the sounds *l* and *r*, which I have systematically investigated in Ide.,

'to smash, to tear, to scratch', etc., shows that in those roots the *l* and *r* represent a hard sound (as also in some cases of Nos. 1 and 2).

More interesting is it to see how the 'unrelated' languages imitate the shape or form of things or movements. In the combination consonant + vowel + *l* or *r*, or vowel + *l* or *r*, we see how the idea of 'round, vaulted, curved, twisted', etc., or the idea of 'to rise above, to grow, to lift, to move', etc., came into existence by the speaking organs' spontaneous imitation of a curved form or movement.

The importance of comparing the roots in different languages may be seen by tabulating the number

Examples with *l* :

	Ide.	Hebrew	Arch. Chin.	Polynes.	Sumerian
1. Sound	<i>lëu-</i> (Ags., <i>léop</i> , 'song')	<i>lw-n</i> , 'to mutter'	<i>l'w-ar</i> , 'eulogy'	<i>leo</i> , 'the voice, speech'	<i>lu-ga</i> , 'to scold'
2. Light, colour	<i>leuq</i> (Lat., lux)	<i>lw-h</i> , 'to shine'	<i>luk</i> , 'to look carefully' (<i>liuk</i> , 'green')	<i>roherohe</i> , 'a torch' (in P. <i>r</i> and <i>l</i> interchange)	<i>luš, laš</i> , 'light'.
3. Water	<i>leiqu-</i> , 'wet' (Lat., liquor)	<i>lh-h</i> , 'be wet'	<i>lia</i> , 'thin wine'; <i>log</i> , 'rain water'	<i>rewa</i> , 'melt, become liquid'	<i>li-</i> , 'fat'; <i>lù</i> , 'muddle, disturb the water'.
4. To break, scratch, etc.	<i>lem</i> , 'to break' (Old-Bulg. <i>loml'ja</i> , 'to break')	<i>lm-d</i> , 'to stab'	<i>láp</i> , 'to break'	<i>rami</i> , 'to squeeze'	<i>lag</i> , 'to strike'.

Examples with *r* :

1. Sound	<i>räs-</i> , 'to sound' (Old-Ind. <i>räs-ati</i> , 'cries, sounds')	<i>rz-h</i> , 'to cry'	the hard 'r' does not exist	<i>rara</i> , 'to roar'.	
2. Light, colour	<i>reg</i> , 'to colour' (Gr., <i>pe(w)</i>)	<i>rah</i> , 'to see'		<i>ra</i> , 'the sun'	<i>ra</i> , 'shining'.
3. Water	<i>reg-</i> , 'wet rain' (Lat., <i>rigare</i>)	<i>rh-t</i> : <i>rahat</i> , 'water-pipe'		<i>rire</i> , 'deep water'	<i>ri</i> , 'to flow' ?
4. To break, scratch, etc.	<i>reis-</i> , 'damage' (Old-Ind. <i>risjati</i> , 'damages')	<i>rs-s</i> , 'to smash'		<i>raku</i> , 'to scratch'	<i>ri</i> , 'to throw down'.

Hebrew, Archaic Chinese, Polynesian, Sumerian and partially in Greenlandic.

In all these 'unrelated' languages the sounds *l* and *r* show a double origin : (1) that of a Nature sound (especially where *l* and *r* form the beginning of a syllable, or in the connexion vowel + *l* or *r*, but sometimes also in the combination consonant + vowel + *l* or *r*), and (2) that of a different (gestural) sound (mostly in the connexion consonant + vowel + *l* or *r*, but even vowel + *l* or *r*) as spontaneous imitations of the speaking organs to express the idea of the form or shape of things in Nature or to designate a movement.

The investigation shows that the most remarkable meanings of roots with the Nature sounds *l* and *r* (marked as *l'* and *r'* to distinguish them from *l*² and *r*², which mainly are a means of designating the shape or form or a movement, cf. above) are : (1) sound ; (2) light, colour ; (3) water ; (4) to break, scratch, etc.

of Ide. and Hebrew roots with *r* according to their various meanings :

	No. in Ide.	No. in Hebrew
Sound	46	19
Colour	32	10
Water	19	14
To break, scratch	91	70
Round, vaulted, curved	103	26
To move, rise above	97	83
Total	388	222

To this may be added some other roots, especially with the meaning 'to cut' (Ide., 8 roots ; Hebrew, 17) or 'to devour' or to be 'relaxed'.

As the roots with *l* have a similar extension to those with *r* we see that, in Ide. languages, the sounds *l* and *r* in the roots of approximately one word in three have more or less determined the meaning (the Ide. roots

	Ide.	Hebrew	Arch. Chin.	Polynes.	Sumerian	Greenl.
Round, vaulted, curved, twisted, etc.	<i>kel-</i> , 'to enclose, cover' (Lat., color)	<i>kl-l</i> , 'to bend, encompass'	<i>kl-jo</i> , 'round basket'	see under <i>r</i>	<i>gal (ga-al)</i> 'big'	<i>gal-eg</i> , 'ribbon'
	<i>ker-</i> , 'string, to plait'	<i>kr-r</i> , 'be round, turn'	<i>k'iar</i> , 'bow down (the head) to the ground'	<i>kara</i> , 'an old man' (bent by age, cf. Gr. <i>γερων</i>)	<i>gar</i> , 'to encompass'; <i>gür</i> , 'to bow'	<i>gar-ajak</i> , 'bay, encircled by rocks'
To move, to rise above, to grow, to lift, etc.	<i>tel-</i> , 'to lift' (Lat., <i>lollo</i>)	<i>dl-g</i> , 'to jump'	<i>lia</i> , 'depart from'; <i>liar</i> , 'push away'	<i>tere</i> , 'to move swiftly'	<i>zal</i> , 'to extend'	<i>sir</i> , 'be long, to remove'
	<i>reiq-</i> , 'to arise' (Germ. <i>riegen</i>)	<i>rg-š</i> , 'turbulent movement'				

All these four subdivisions are closely related. It is an accepted theory that an impression on either the ear or the eye may give the same phonetical release (*Schall- und Lichtempfindung* in German handbooks)—presumably because they were originally symbolized by somewhat similar gestures. Thus Ide. *ghel*, 'to cry', and *ghel*, 'to shine', are related. No. 3 means water dripping, etc. No. 4, with the meaning

number 2200), and that in more than 50 per cent (200 out of 388 for the sound *r*) all words containing in the roots the sounds *l* or *r* are of gestural origin. This fact might encourage philologists to scrutinize systematically all combinations of sound-groups in the roots as the most important means of solving the problem how man learned to speak.

¹ *Nature*, 153, 171 (1944); 154, 466 (1944); 157, 847 (1946).